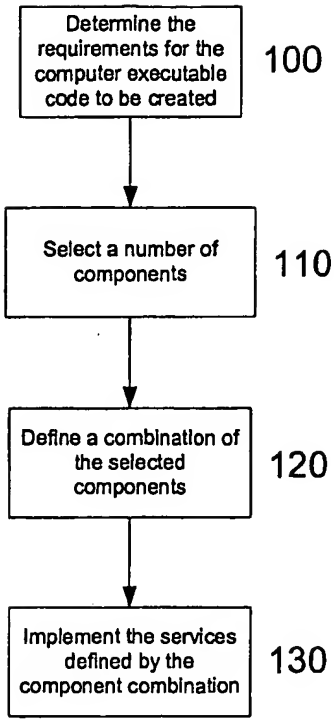


Fig. 1

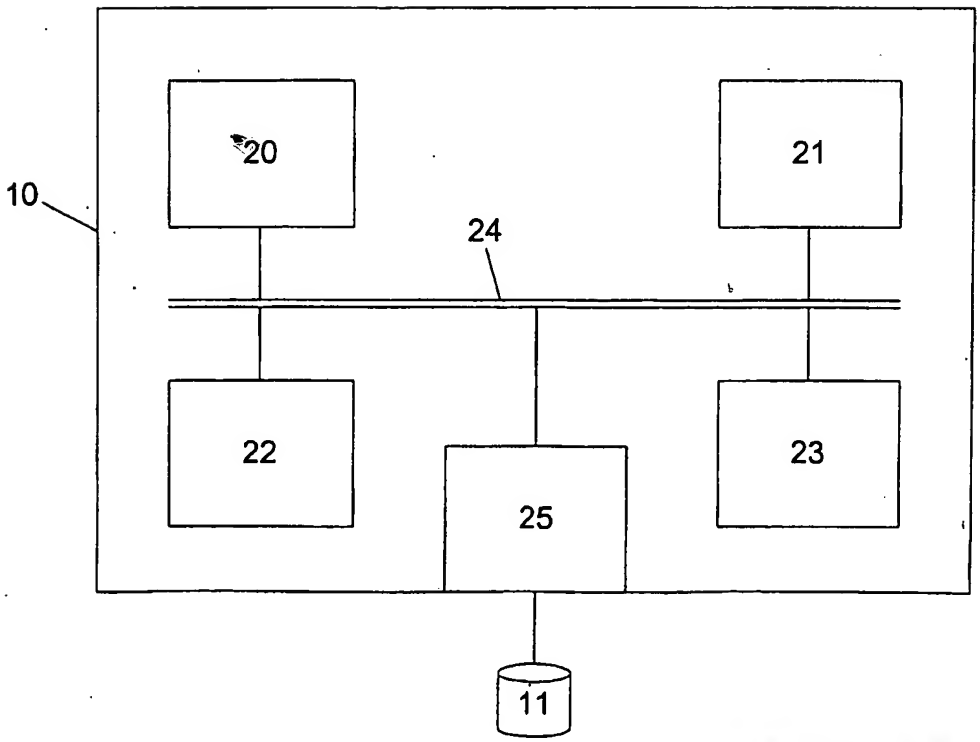


Fig. 2

BEST AVAILABLE COPY

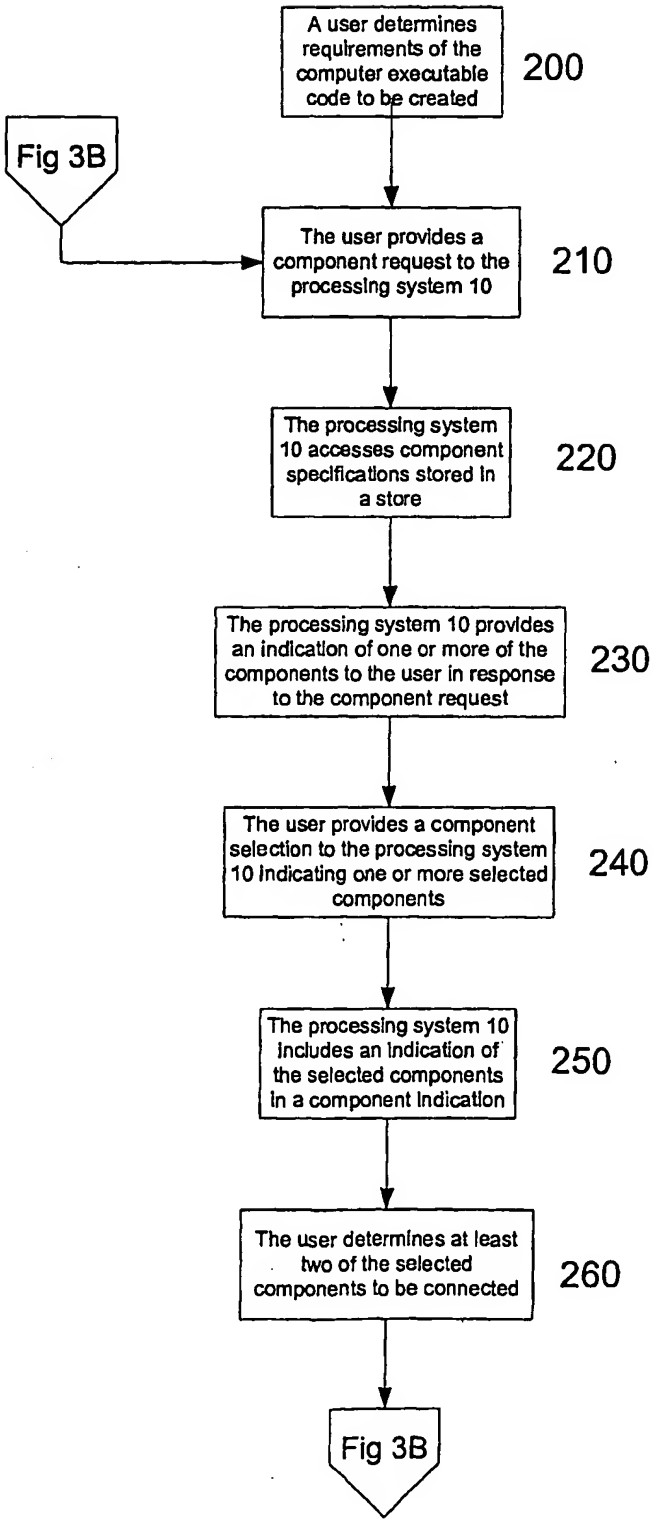
A user determines requirements of the computer executable code to be created
200
Fig 3B
The user provides a component request to the processing system 10
210
The processing system 10 accesses component specifications stored in a store
220
The processing system 10 provides an indication of one or more of the components to the user in response to the component request
230
The user provides a component selection to the processing system 10 indicating one or more selected components
240
The processing system 10 includes an indication of the selected components in a component indication
250
The user determines at least two of the selected components to be connected
260
Fig 3B

Fig. 3A

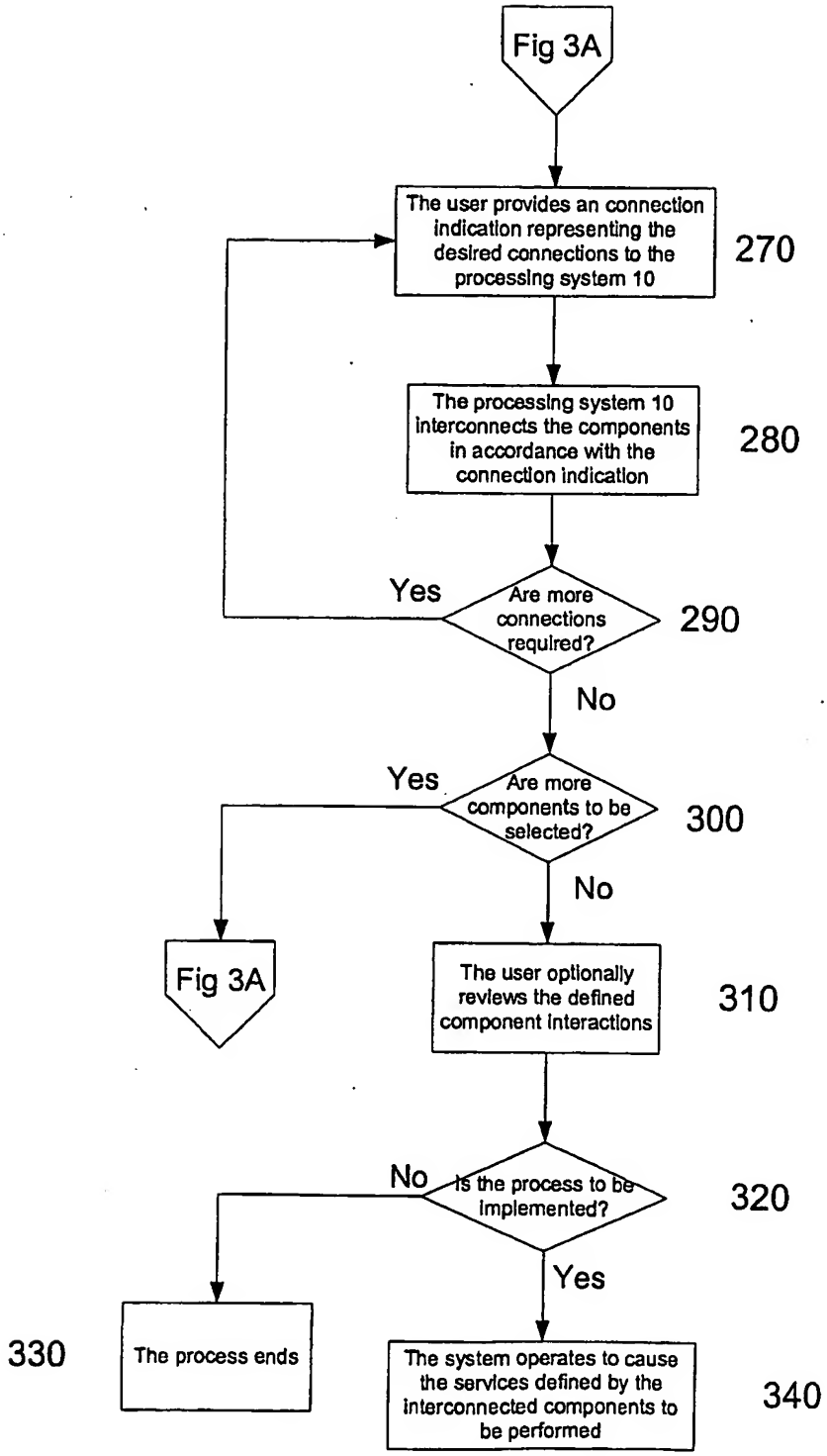
Fig 3A
The user provides an connection indication representing the desired connections to the processing system 10
270
The processing system 10 interconnects the components in accordance with the connection indication
280
Yes
Are more connections required?
290
No
Yes
Are more components to be selected?
300
No
Fig 3A
The user optionally reviews the defined component interactions
310
No
Is the process to be implemented?
320
Yes
330
The process ends
The system operates to cause the services defined by the interconnected components to be performed
340

Fig. 3B

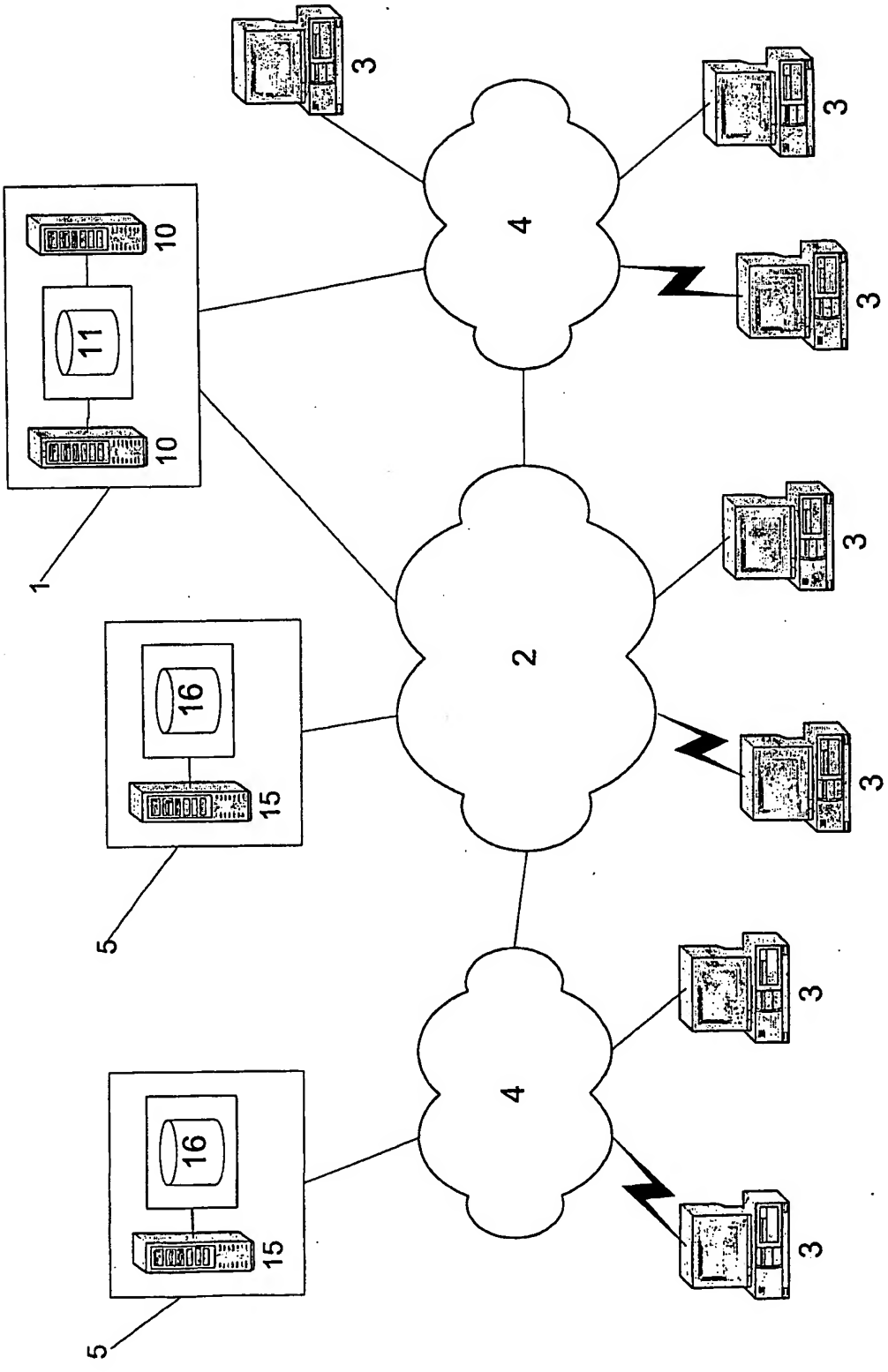


Fig. 4

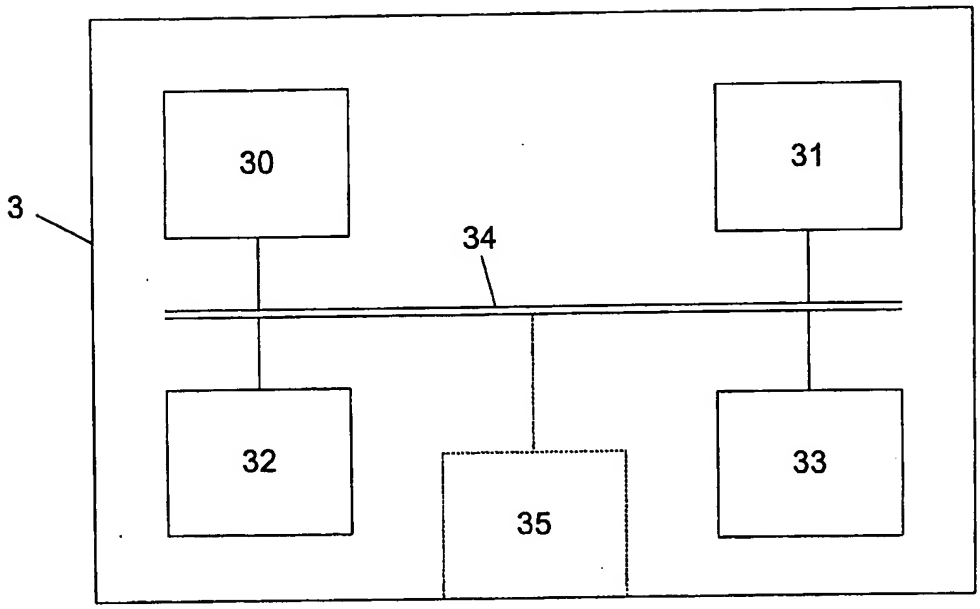


Fig. 5

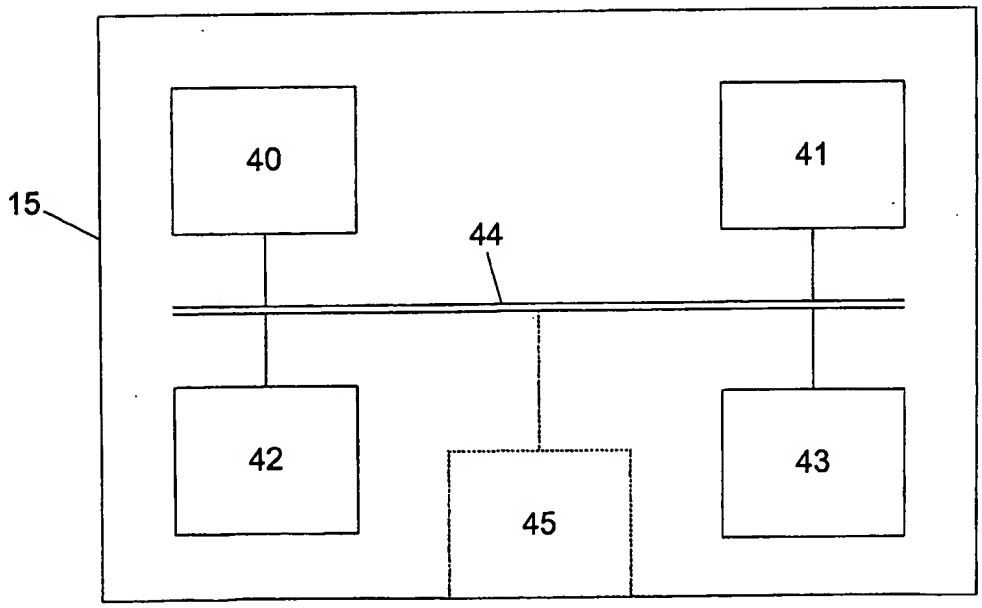


Fig. 6

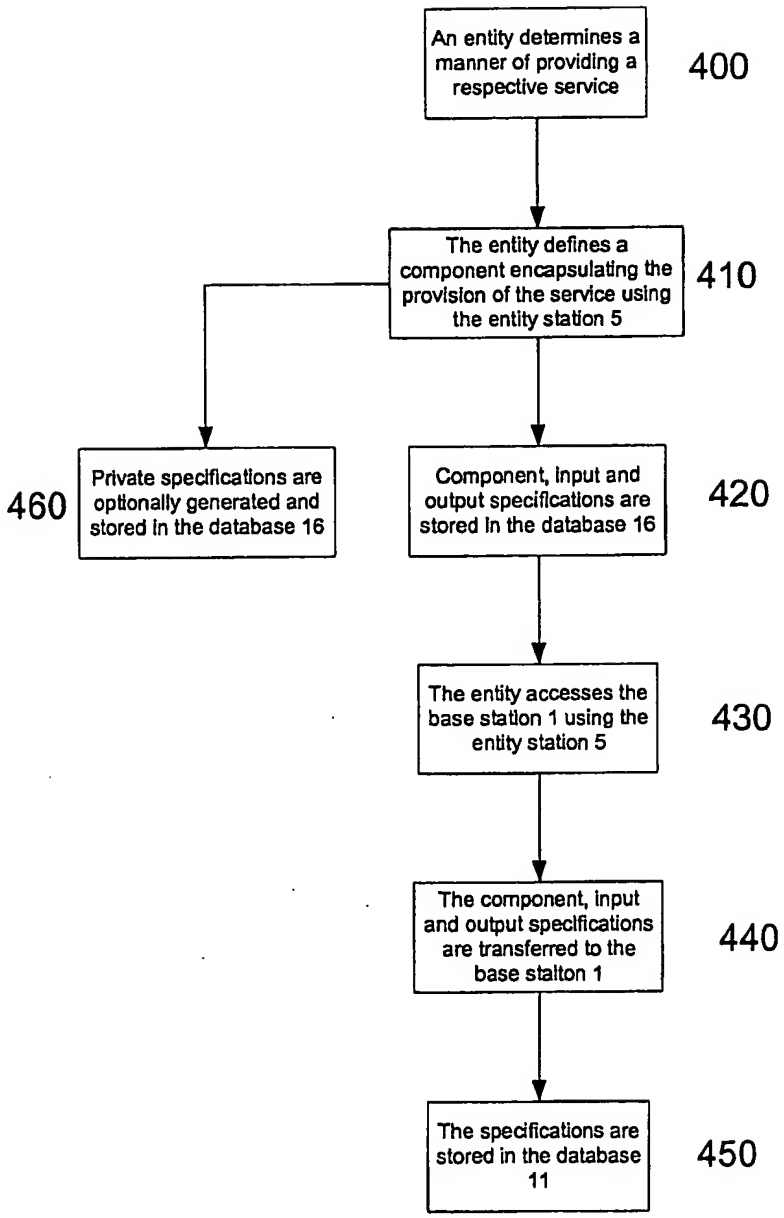
An entity determines a manner of providing a respective service
400
The entity defines a component encapsulating the provision of the service using the entity station 5
410
Component, input and output specifications are stored in the database 16
420
Private specifications are optionally generated and stored in the database 16
460
The entity accesses the base station 1 using the entity station 5
430
The component, input and output specifications are transferred to the base station 1
440
The specifications are stored in the database 11
450

Fig. 7

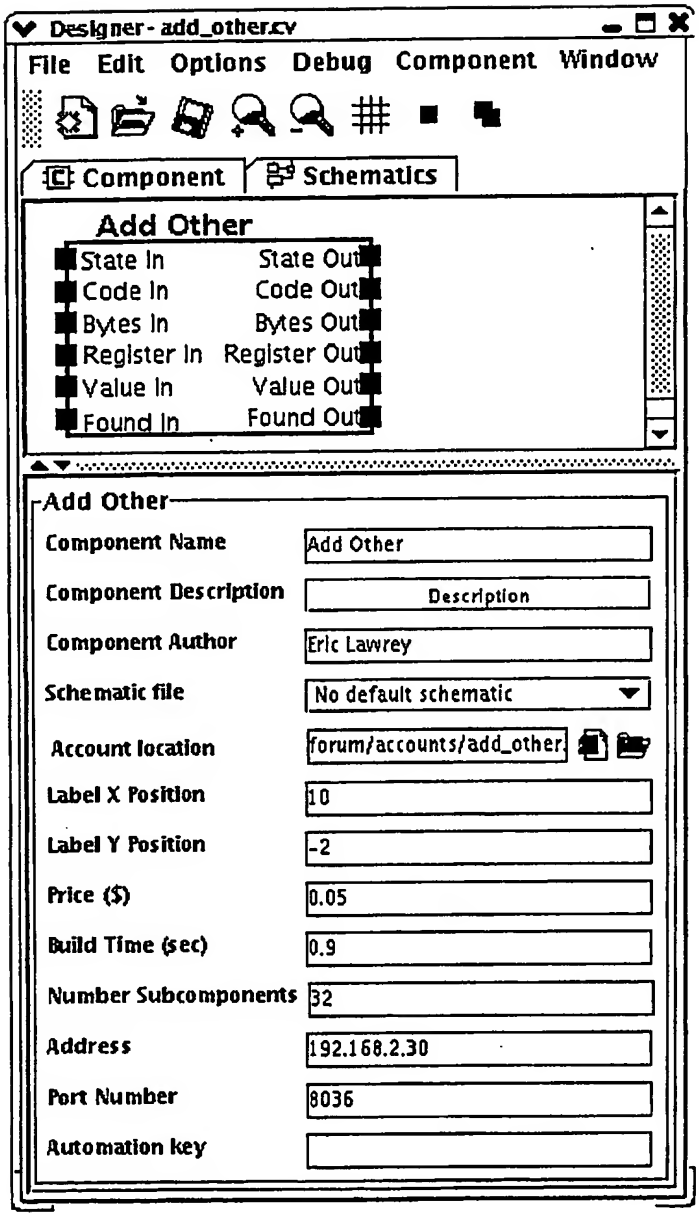
Designer - add_other.cv
File Edit Options Debug Component Window
Component
Schematics
Add Other
State In
Code In
Bytes In
Register In
Value In
Found In
State Out
Code Out
Bytes Out
Register Out
Value Out
Found Out
Add Other
Component Name
Add Other
Component Description
Description
Component Author
Eric Lawrey
Schematic file
No default schematic
Account location
forum/accounts/add_other
Label X Position
10
Label Y Position
-2
Price ($)
0.05
Build Time (sec)
0.9
Number Subcomponents
32
Address
192.168.2.30
Port Number
8036
Automation key

Fig. 8

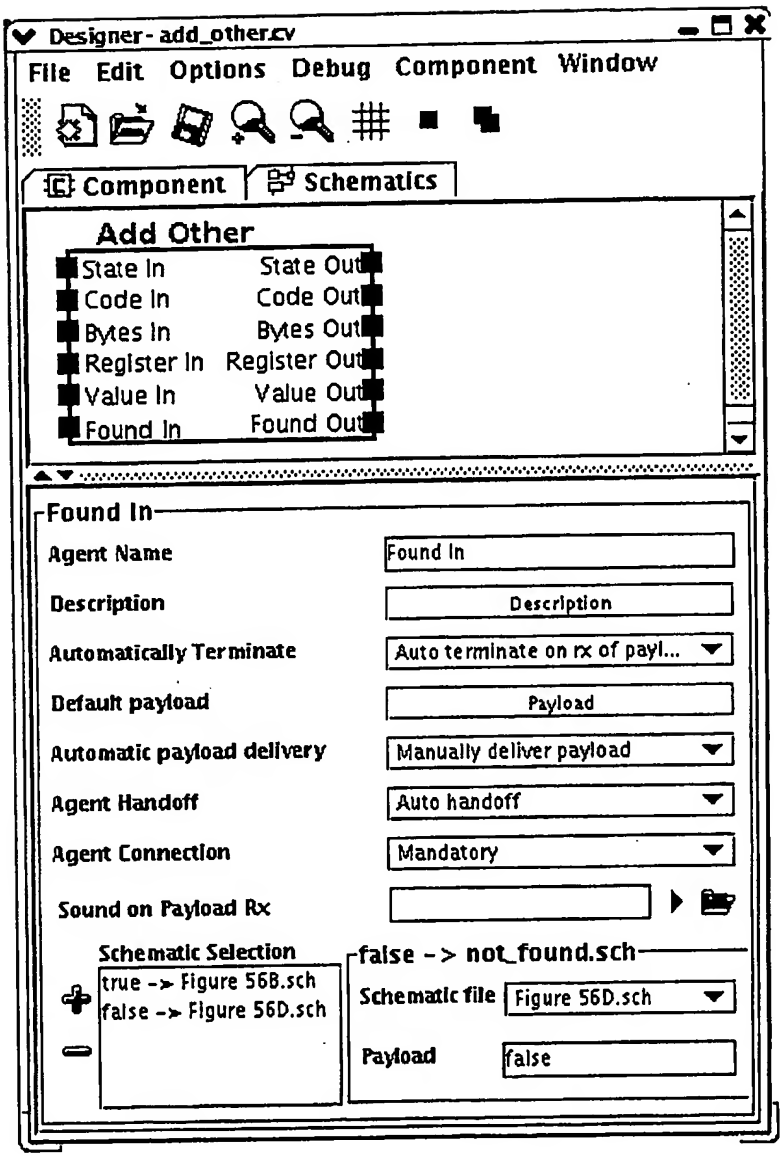
Designer - add_other.cv
File Edit Options Debug Component Window
Component
Schematics
Add Other
State In
Code In
Bytes In
Register In
Value In
Found In
State Out
Code Out
Bytes Out
Register Out
Value Out
Found Out
Found In
Agent Name
Found In
Description
Description
Automatically Terminate
Auto terminate on rx of payl...
Default payload
Payload
Automatic payload delivery
Manually deliver payload
Agent Handoff
Auto handoff
Agent Connection
Mandatory
Sound on Payload Rx
Schematic Selection
true -> Figure 56B.sch
false -> Figure 56D.sch
false -> not_found.sch
Schematic file
Figure 56D.sch
Payload
false

Fig. 9

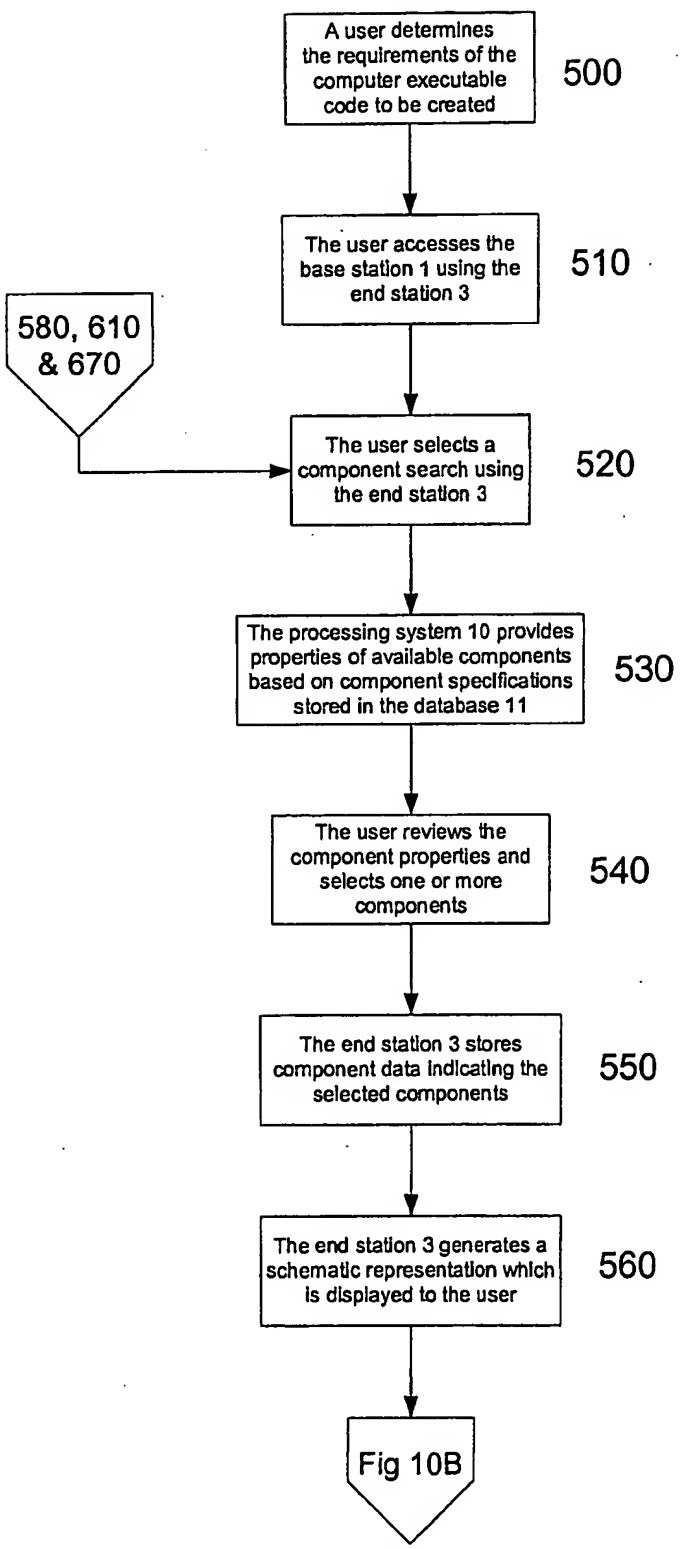
A user determines the requirements of the computer executable code to be created
500
The user accesses the base station 1 using the end station 3
510
580, 610 & 670
The user selects a component search using the end station 3
520
The processing system 10 provides properties of available components based on component specifications stored in the database 11
530
The user reviews the component properties and selects one or more components
540
The end station 3 stores component data indicating the selected components
550
The end station 3 generates a schematic representation which is displayed to the user
560
Fig 10B

Fig. 10A

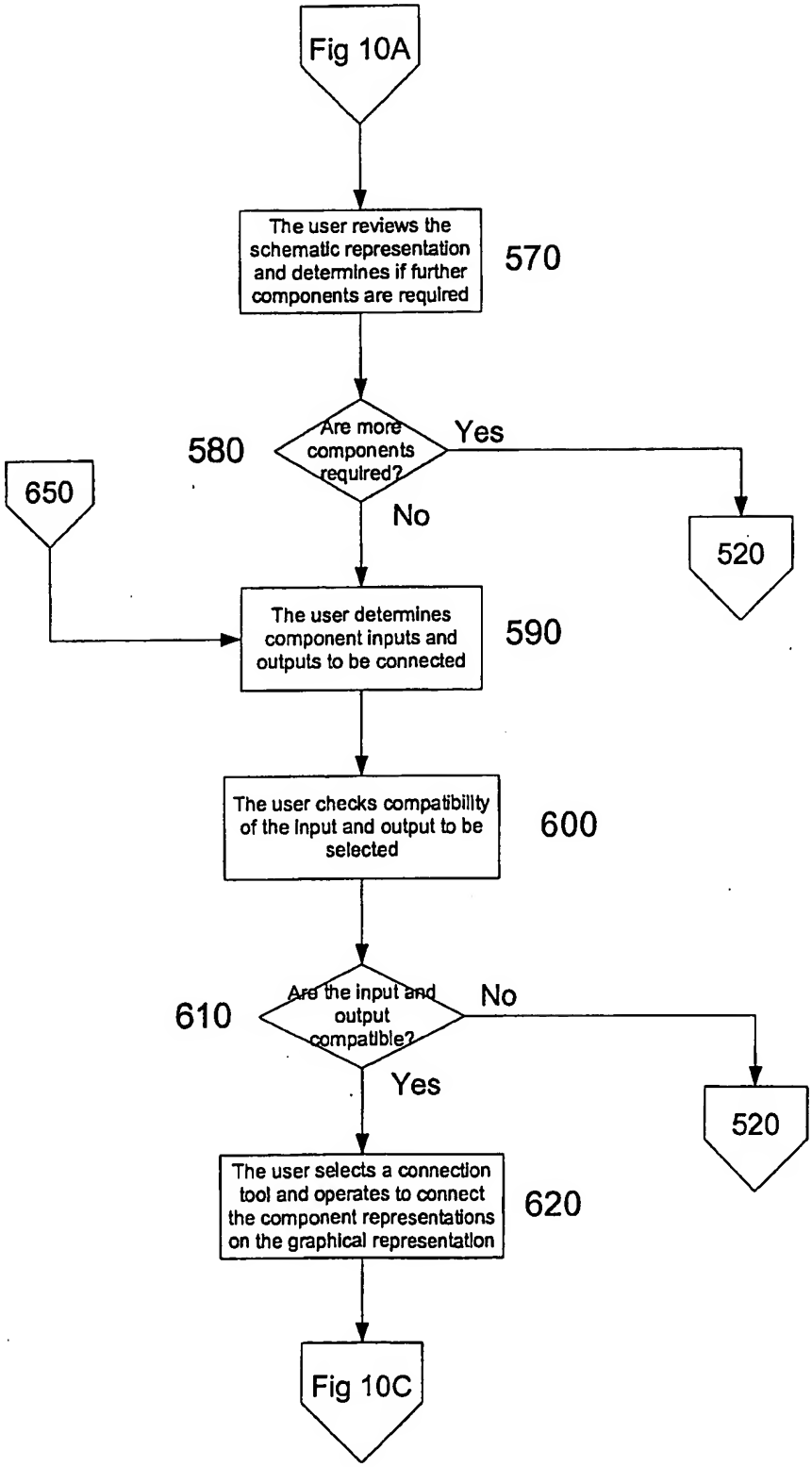
Fig 10A
The user reviews the schematic representation and determines if further components are required
570
580
Are more components required?
Yes
No
650
520
The user determines component inputs and outputs to be connected
590
The user checks compatibility of the input and output to be selected
600
610
Are the input and output compatible?
No
Yes
520
The user selects a connection tool and operates to connect the component representations on the graphical representation
620
Fig 10C

Fig. 10B

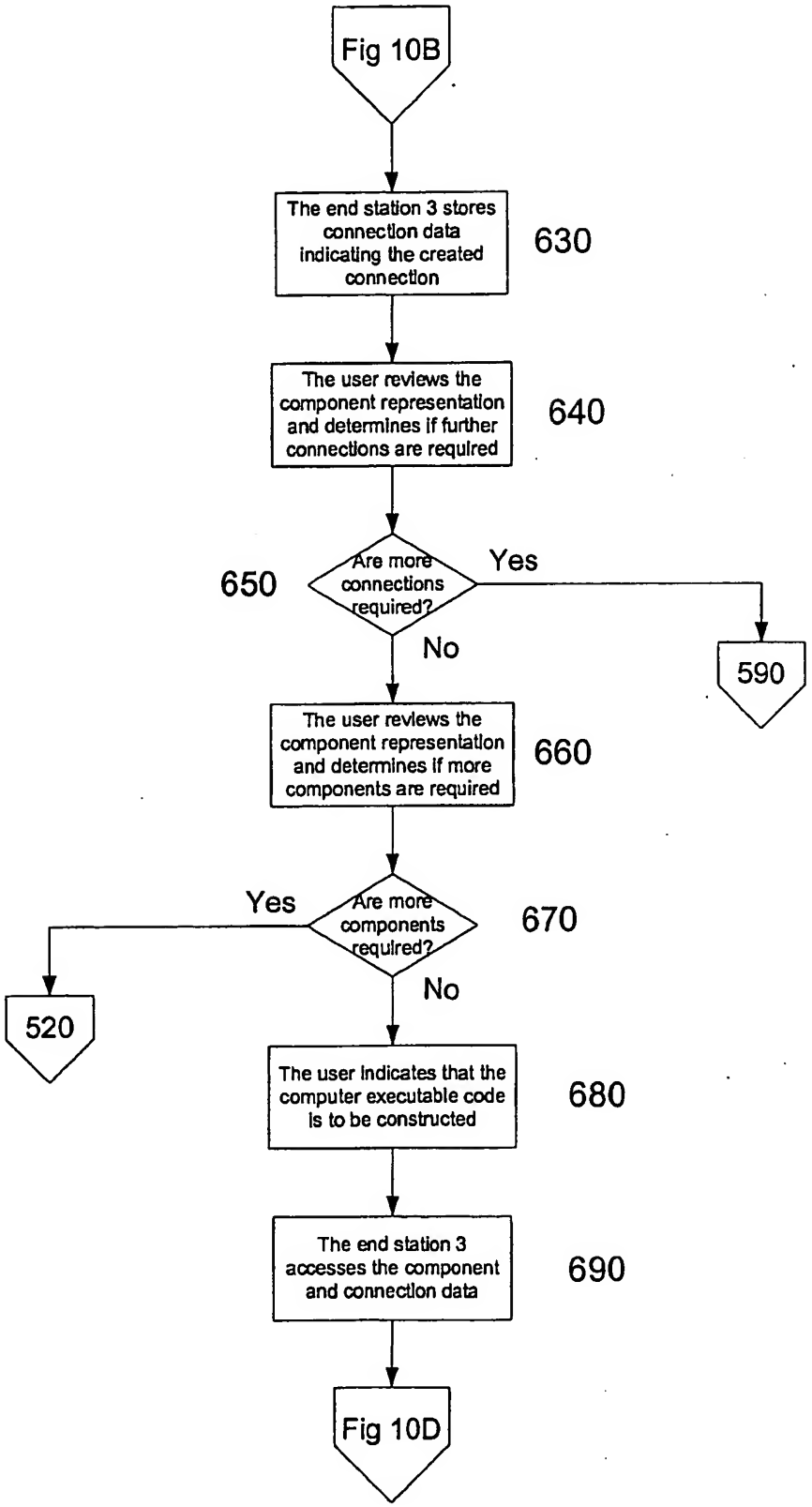
Fig 10B
The end station 3 stores connection data indicating the created connection
630
The user reviews the component representation and determines if further connections are required
640
650
Are more connections required?
Yes
590
No
The user reviews the component representation and determines if more components are required
660
Yes
Are more components required?
670
520
No
The user indicates that the computer executable code is to be constructed
680
The end station 3 accesses the component and connection data
690
Fig 10D

Fig. 10C

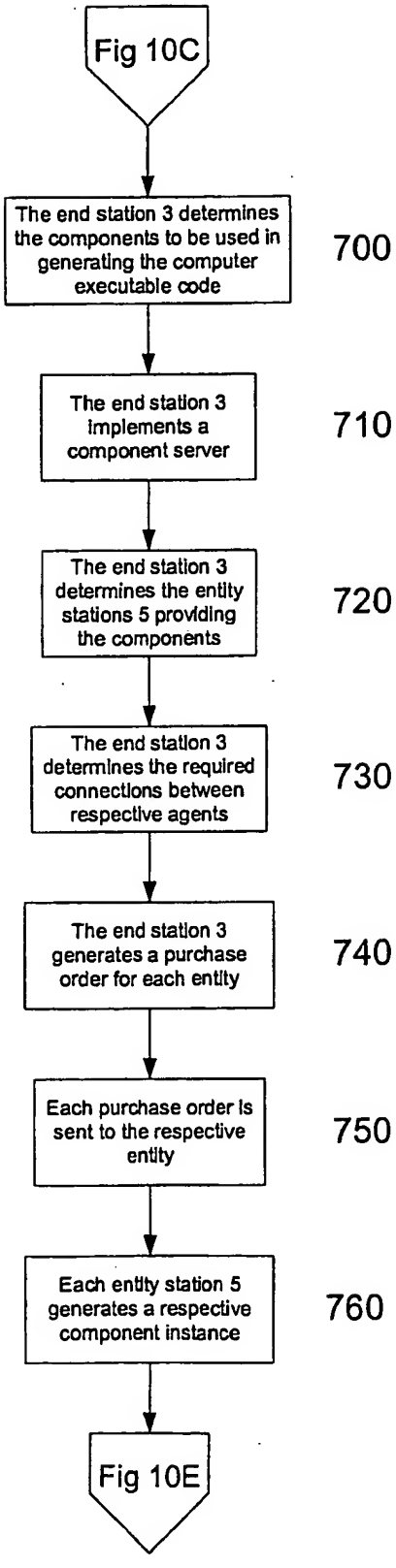
Fig 10C
The end station 3 determines the components to be used in generating the computer executable code
700
The end station 3 implements a component server
710
The end station 3 determines the entity stations 5 providing the components
720
The end station 3 determines the required connections between respective agents
730
The end station 3 generates a purchase order for each entity
740
Each purchase order is sent to the respective entity
750
Each entity station 5 generates a respective component instance
760
Fig 10E

Fig. 10D

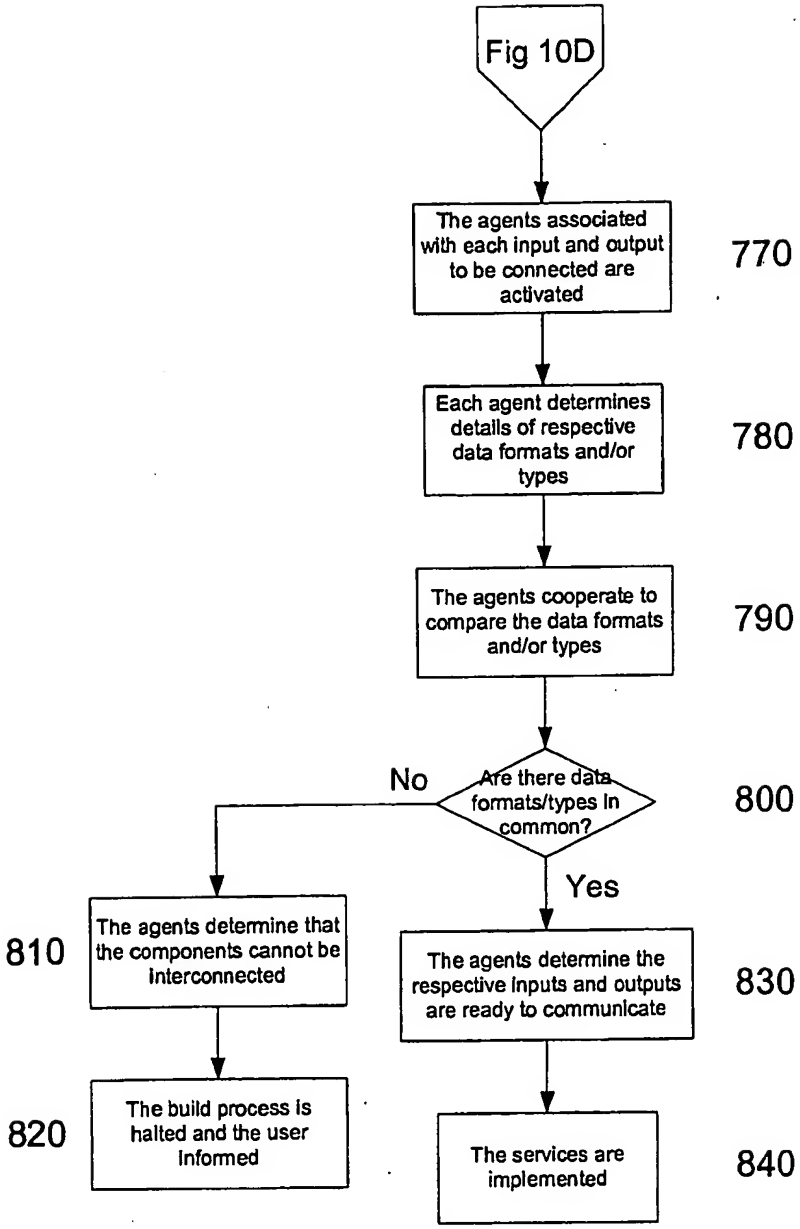
Fig 10D
The agents associated with each input and output to be connected are activated
770
Each agent determines details of respective data formats and/or types
780
The agents cooperate to compare the data formats and/or types
790
No
Are there data formats/types In common?
800
Yes
810
The agents determine that the components cannot be Interconnected
The agents determine the respective Inputs and outputs are ready to communicate
830
820
The build process is halted and the user Informed
The services are implemented
840

Fig. 10E

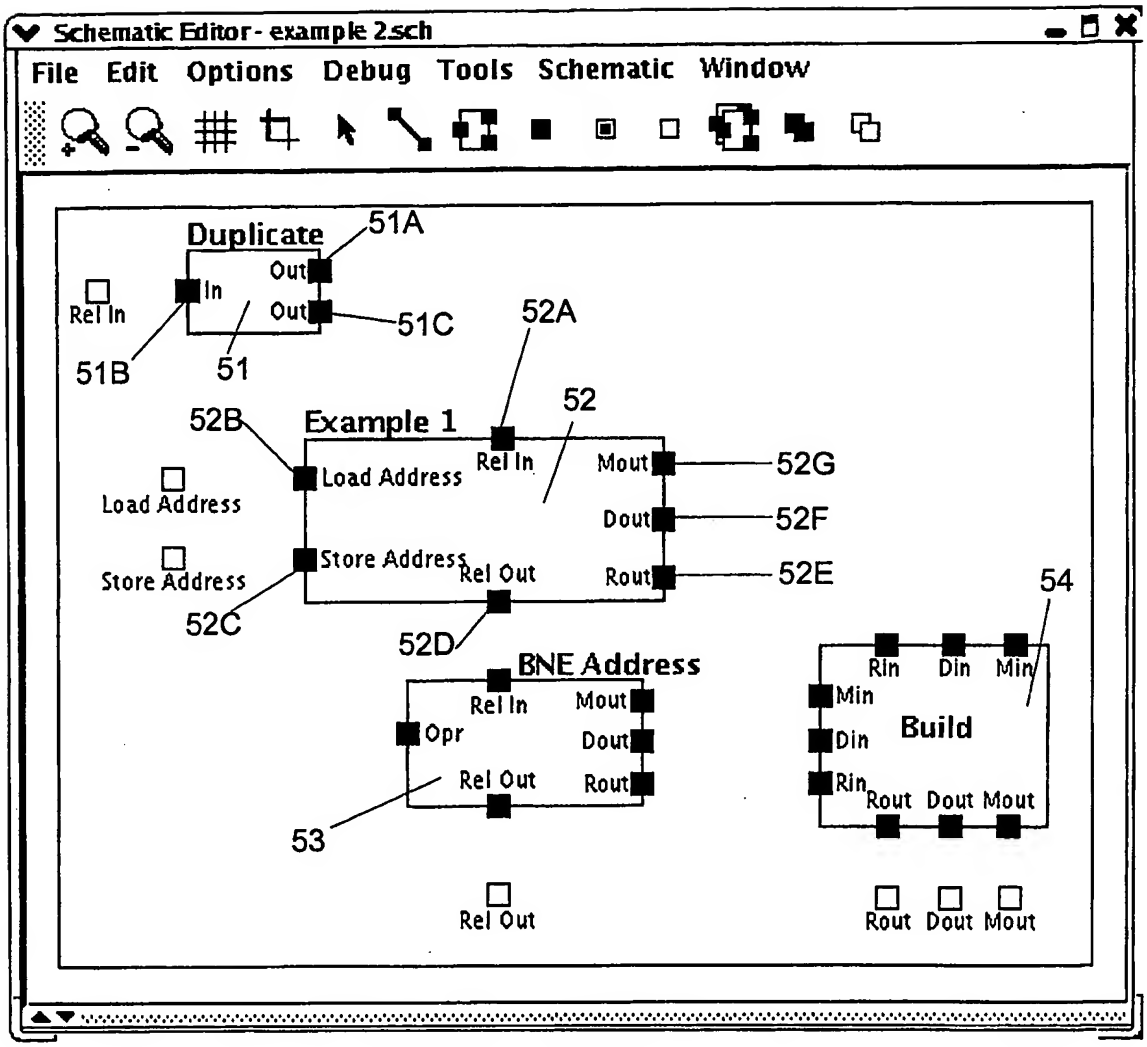
Schematic Editor - example 2.sch
File Edit Options Debug Tools Schematic Window
Duplicate
51A
Out
In
Out
Rel In
51C
52A
51B
51
52
52B
Example 1
Rel In
Mout
52G
Load Address
Load Address
Dout
52F
Store Address
Store Address
Rel Out
Rout
52E
54
52C
52D
BNE Address
Rin Din Min
Rel In
Mout
Min
Opr
Dout
Build
Din
Rel Out
Rout
Rin
Rout Dout Mout
53
Rel Out
Rout Dout Mout

Fig. 11

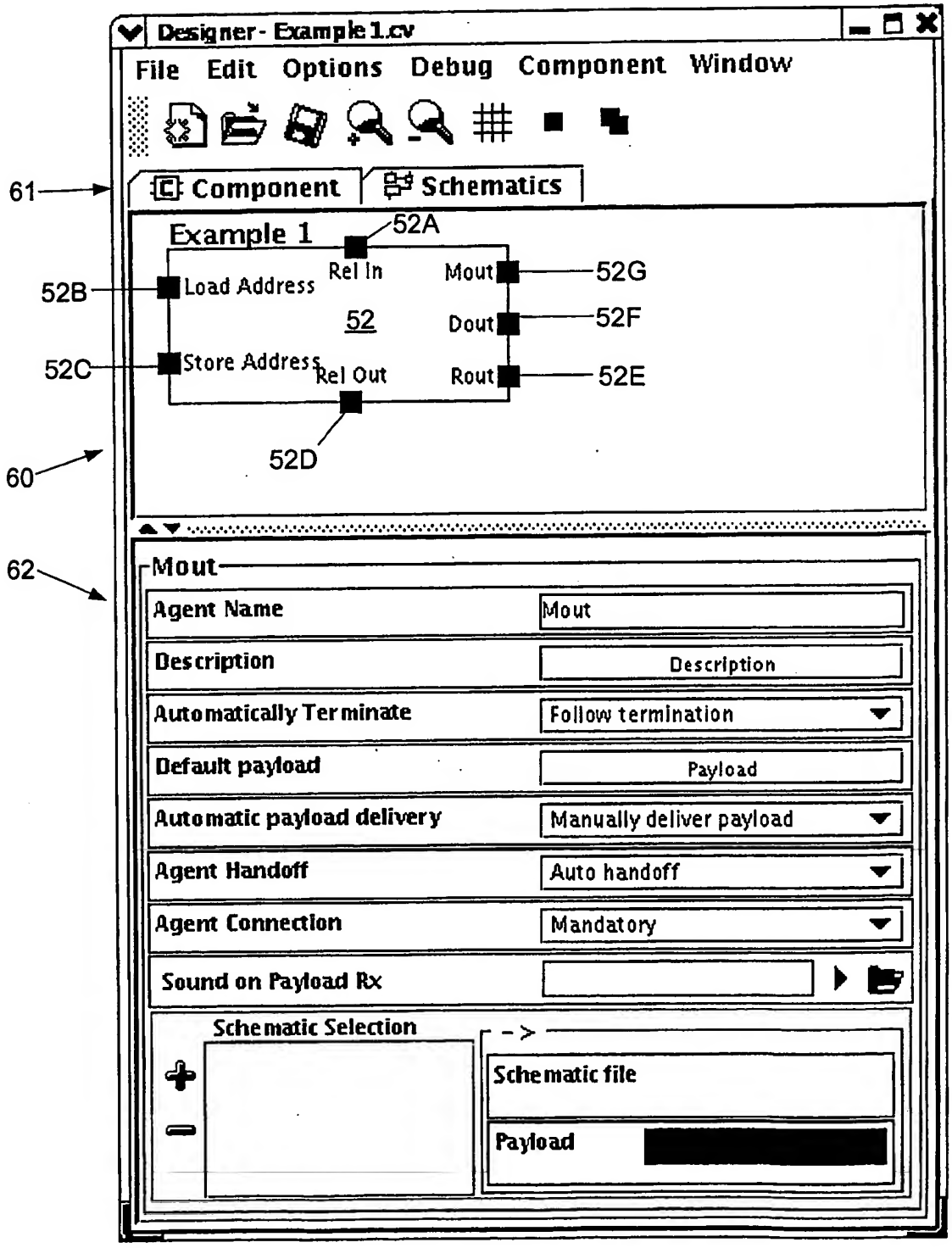
Designer - Example 1.cv
File Edit Options Debug Component Window
Component
Schematics
61
Example 1
52A
Rel In
Mout
52G
52B
Load Address
52
Dout
52F
52C
Store Address
Rel Out
Rout
52E
52D
60
62
Mout
Agent Name
Mout
Description
Description
Automatically Terminate
Follow termination
Default payload
Payload
Automatic payload delivery
Manually deliver payload
Agent Handoff
Auto handoff
Agent Connection
Mandatory
Sound on Payload Rx
Schematic Selection
Schematic file
Payload

Fig. 12

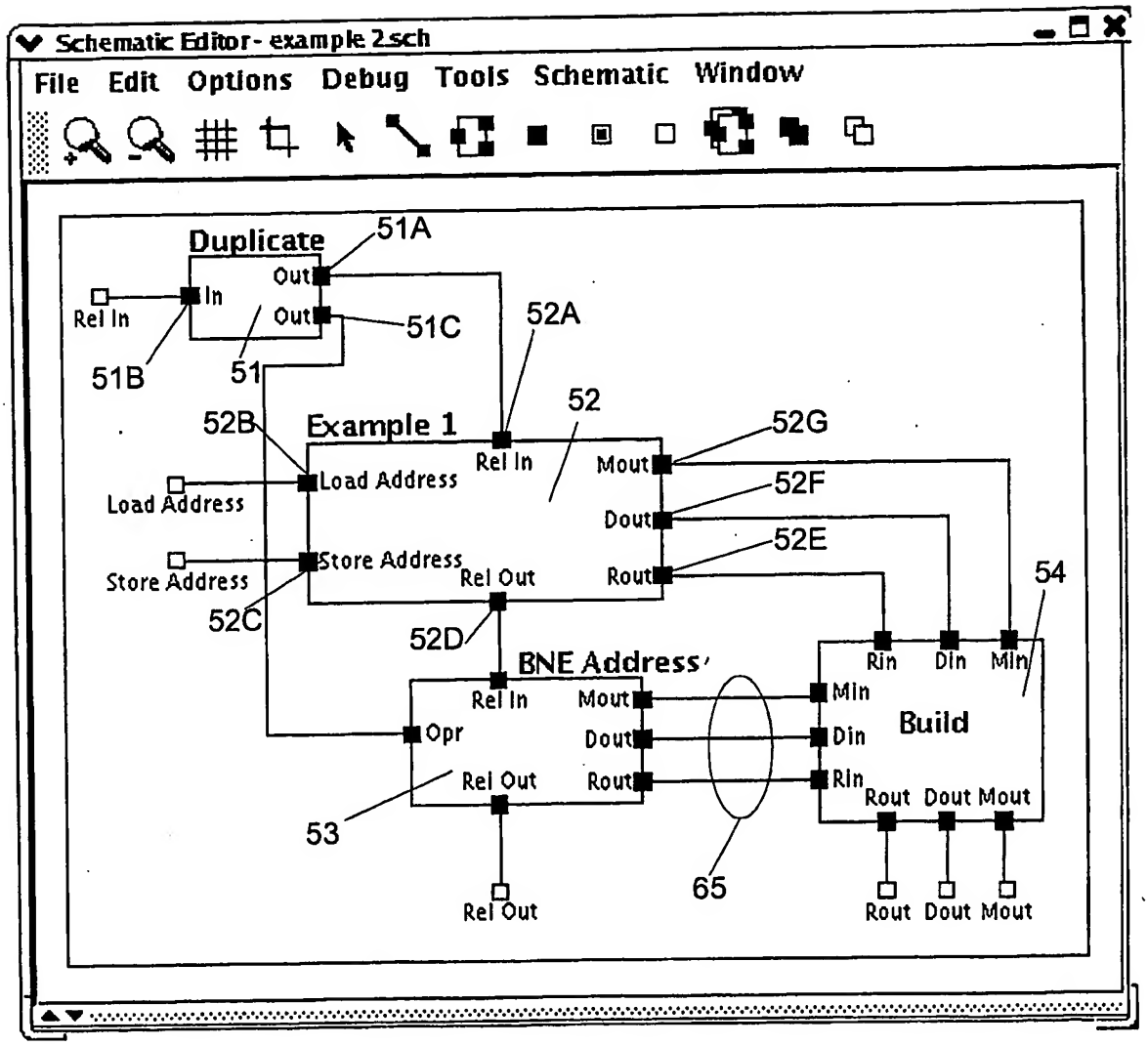
Schematic Editor - example 2.sch
File Edit Options Debug Tools Schematic Window
Duplicate
51A
Out
In
Out
Rel In
51C
52A
51B
51
52
52B
Example 1
52G
Rel In
Mout
Load Address
Load Address
52F
Dout
52E
Store Address
Store Address
Rel Out
Rout
54
52C
52D
BNE Address
Rin Din Min
Rel In
Mout
Min
Opr
Dout
Din
Build
Rel Out
Rout
Rin
Rout Dout Mout
53
65
Rel Out
Rout Dout Mout

Fig. 13

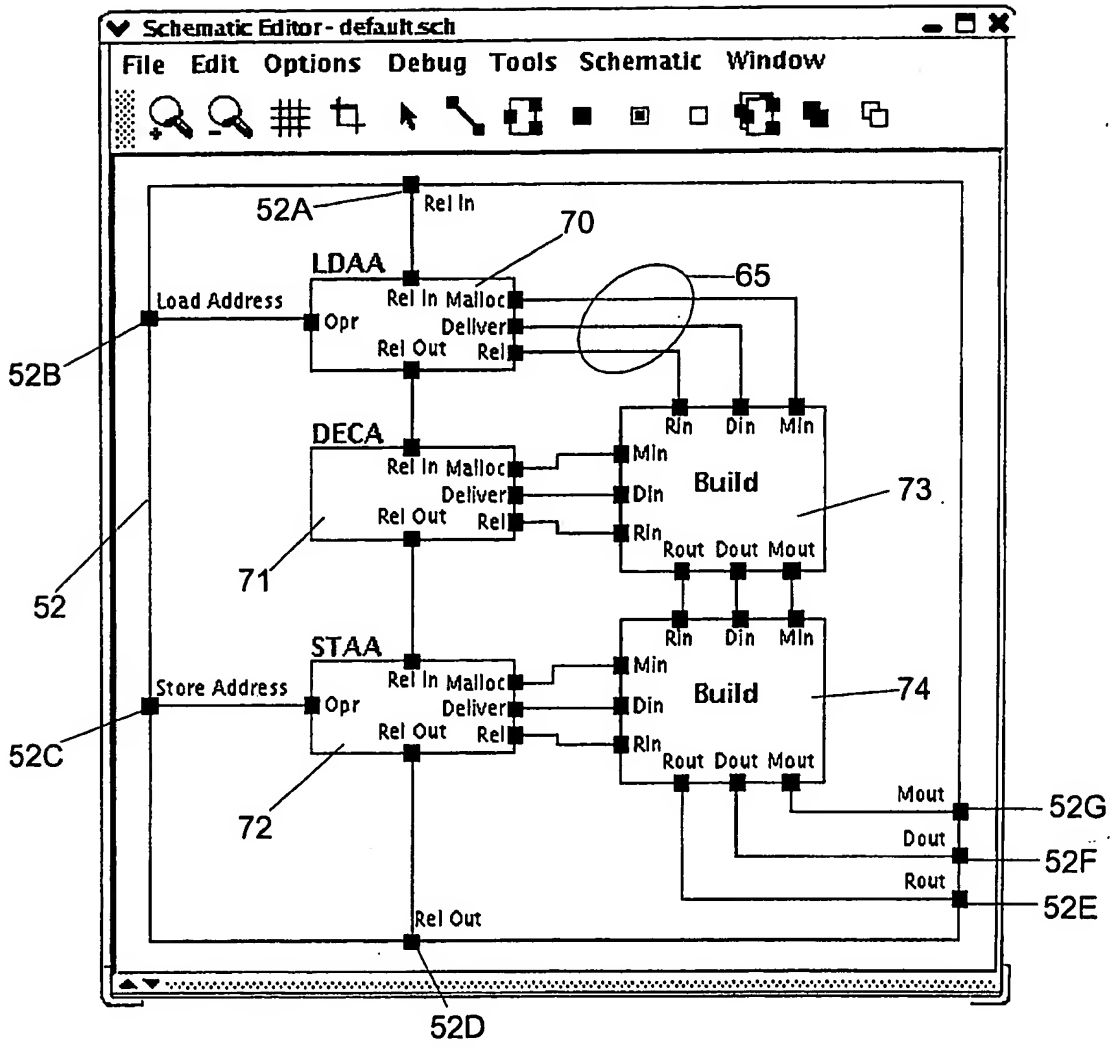
Schematic Editor - default.sch
File Edit Options Debug Tools Schematic Window
52A
Rel In
70
LDAA
65
Load Address
Opr
Rel In Malloc
Deliver
Rel Out Rel
52B
Rin Din Min
DECA
Min
Rel In Malloc
Deliver
Din
Build
73
Rel Out Rel
Rin
Rout Dout Mout
52
71
Rin Din Min
STAA
Min
Store Address
Opr
Rel In Malloc
Deliver
Din
Build
74
Rel Out Rel
Rin
Rout Dout Mout
52C
72
Mout
52G
Dout
52F
Rout
52E
Rel Out
52D

Fig. 14

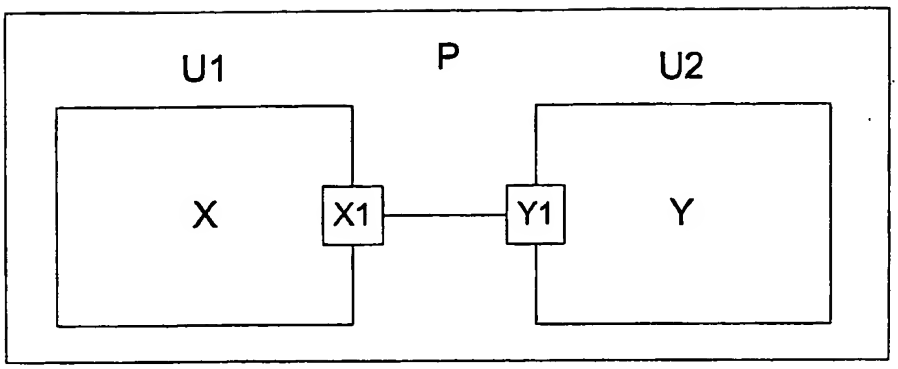


Fig. 15

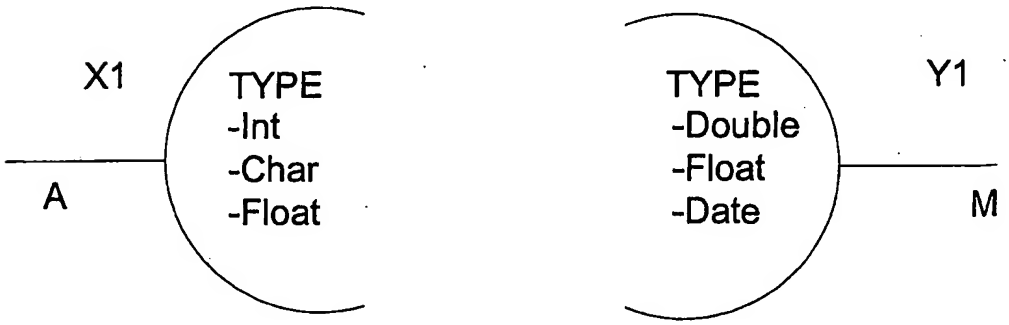


Fig. 16

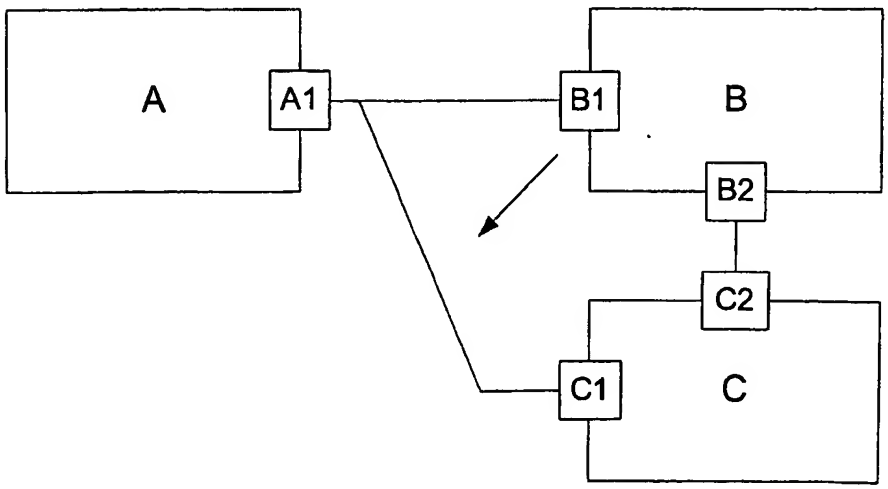


Fig. 19

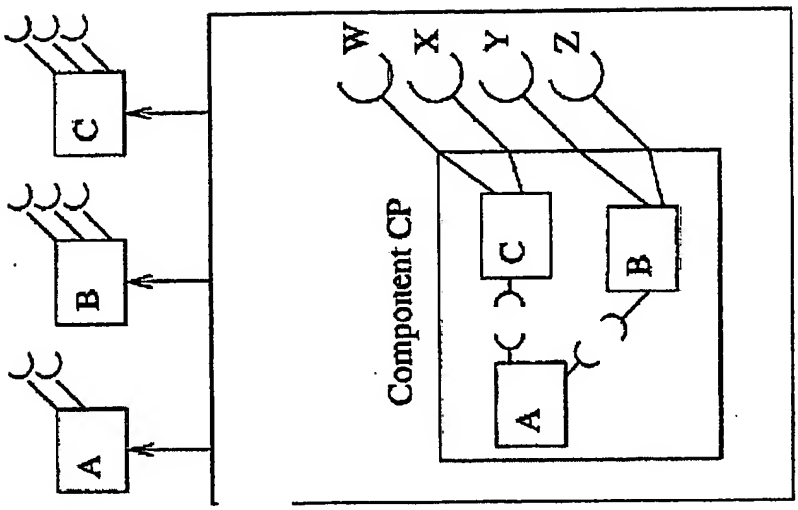


Fig. 17B

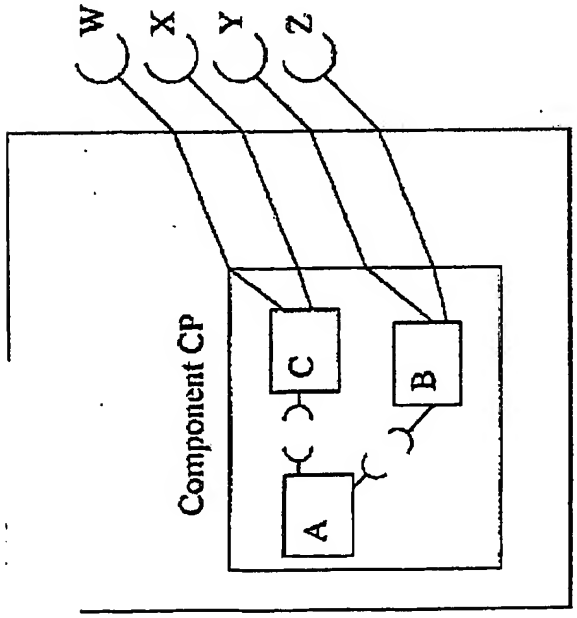


Fig. 17A

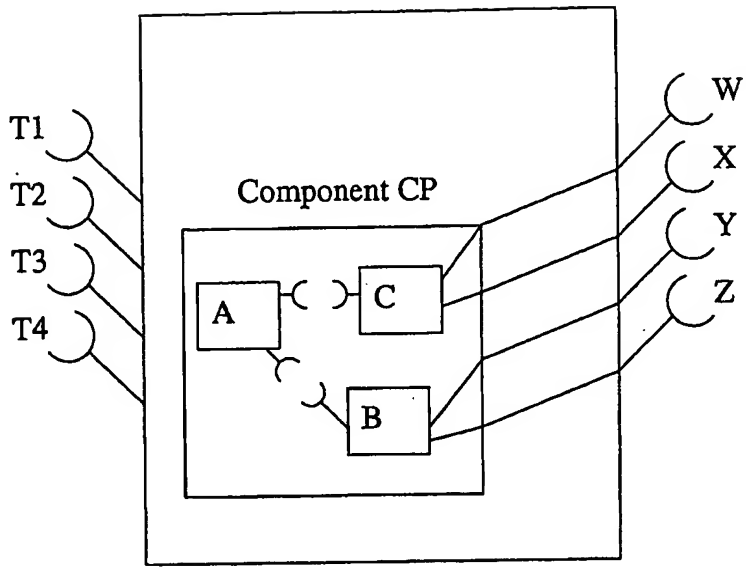


Fig. 17C

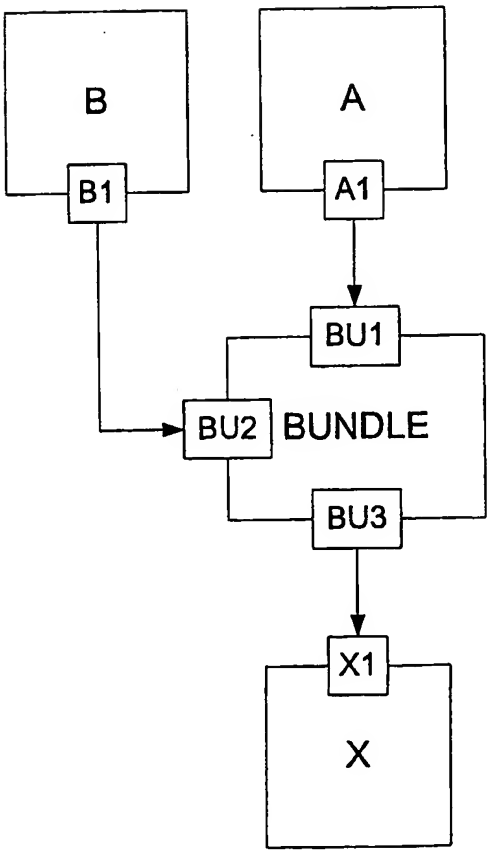


Fig. 20A

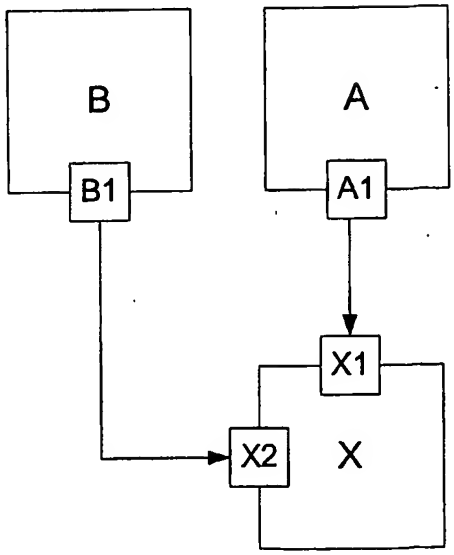


Fig. 20B

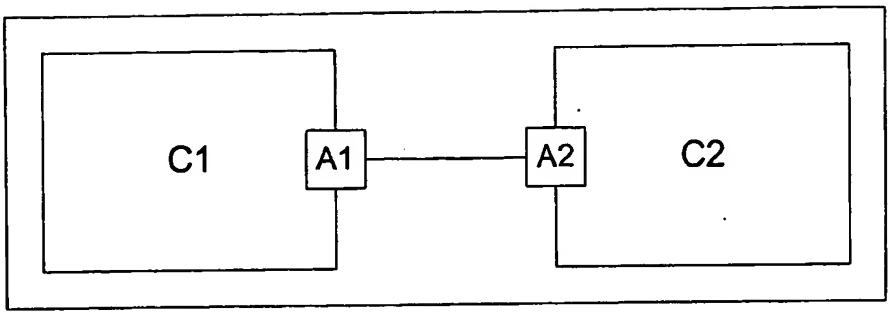


Fig. 18A

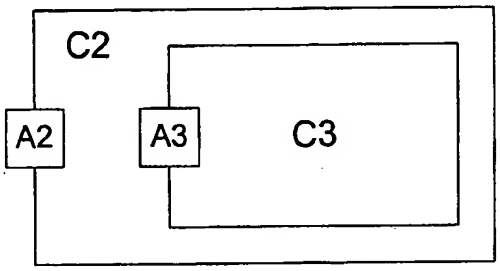


Fig. 18B

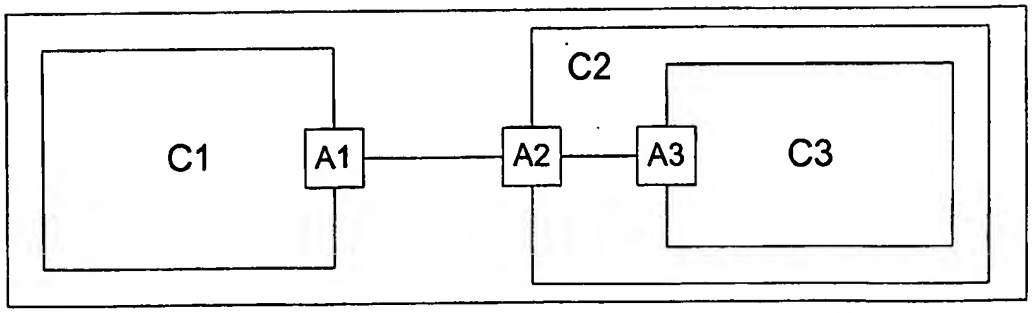


Fig. 18C

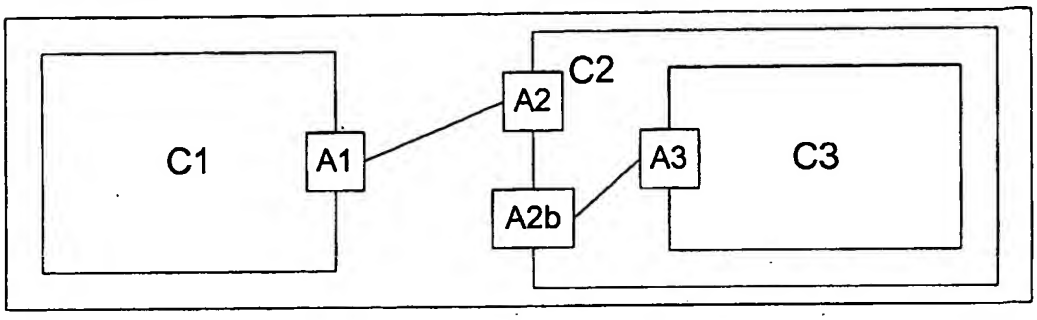


Fig. 18D

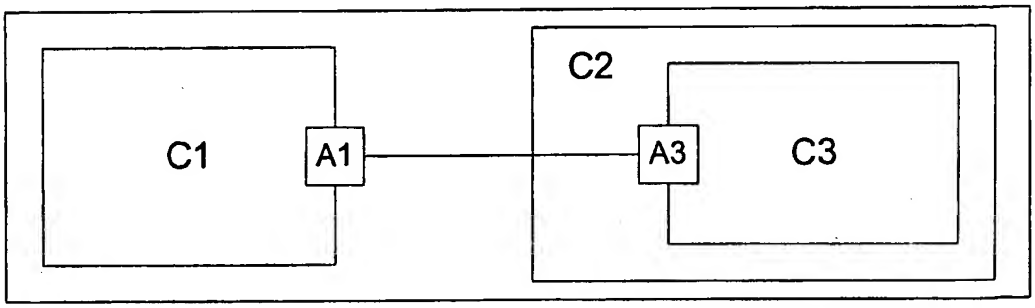


Fig. 18E

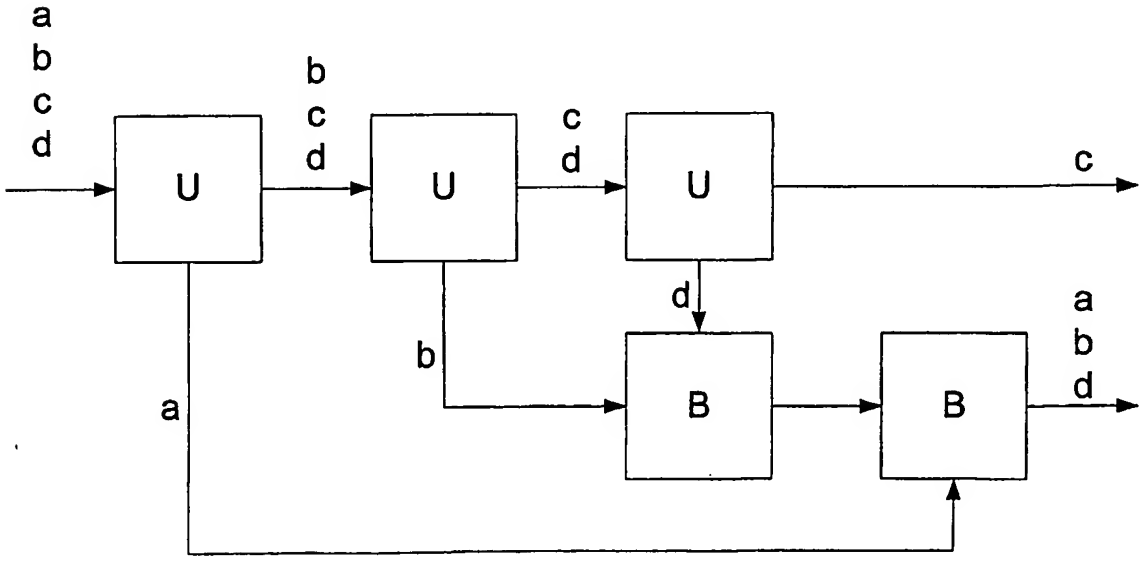


Fig. 23

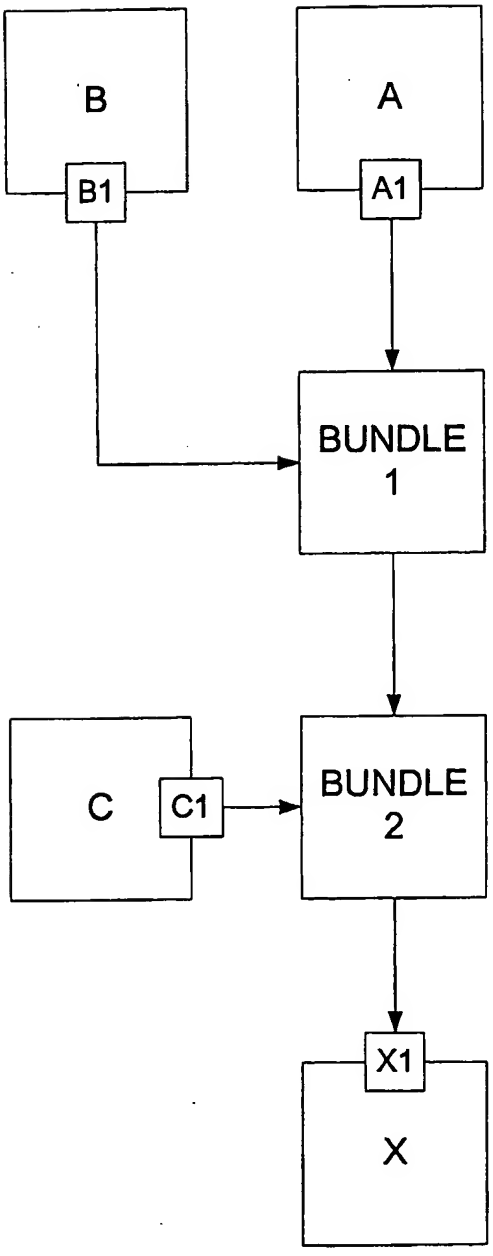
B
B1
A
A1
BUNDLE
1
C
C1
BUNDLE
2
X1
X

Fig. 21

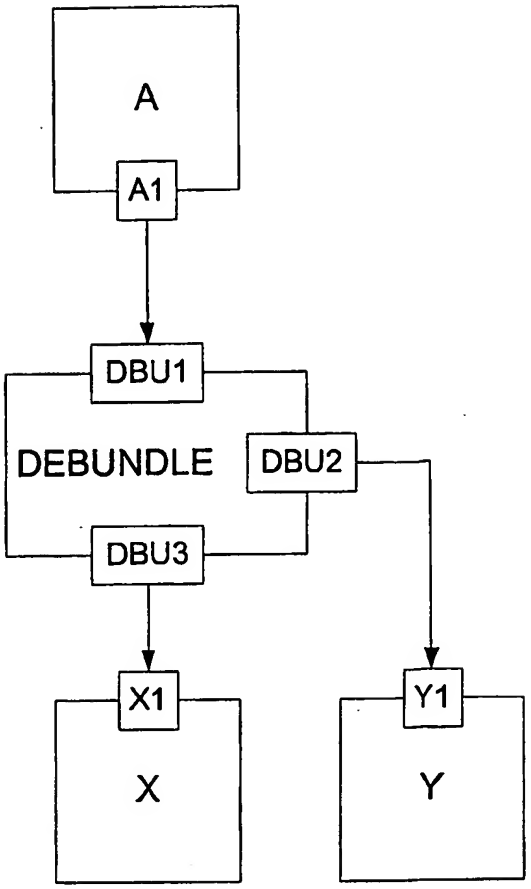
A
A1
DBU1
DEBUNDLE
DBU2
DBU3
X1
X
Y1
Y

Fig. 22

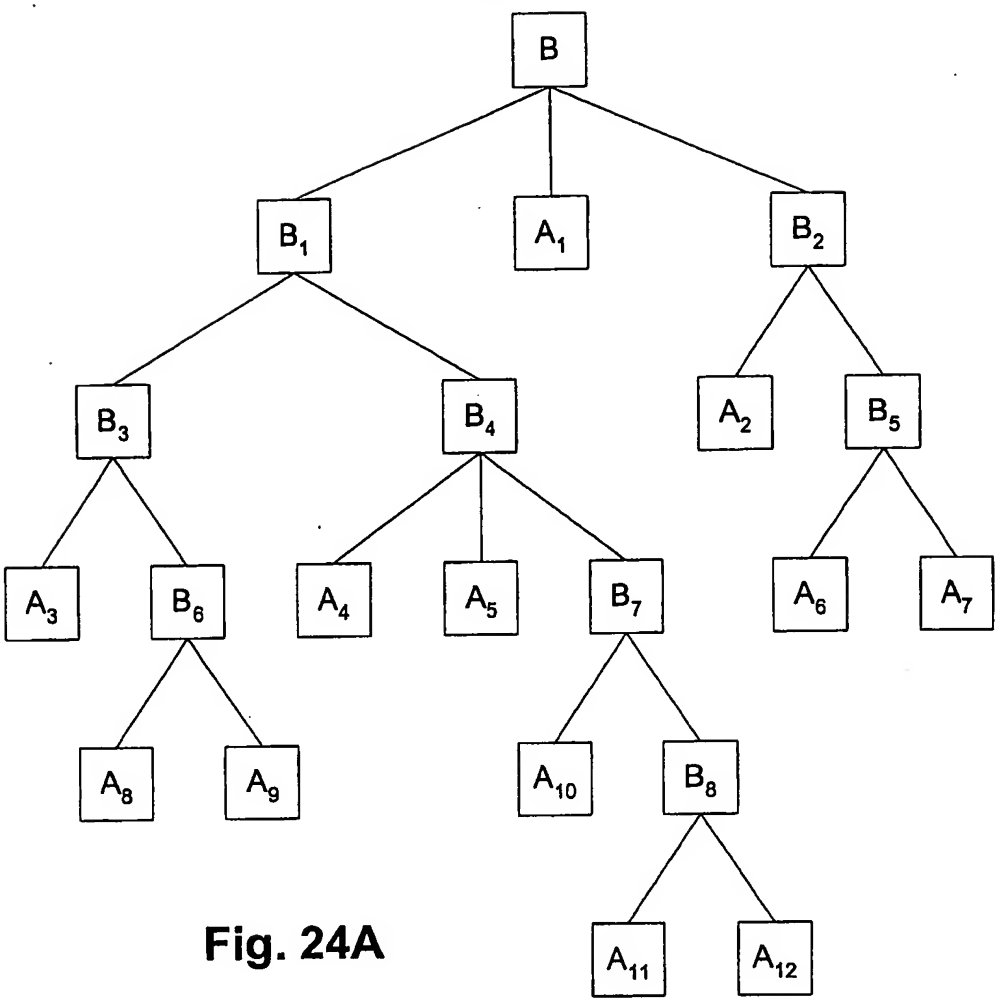


Fig. 24A

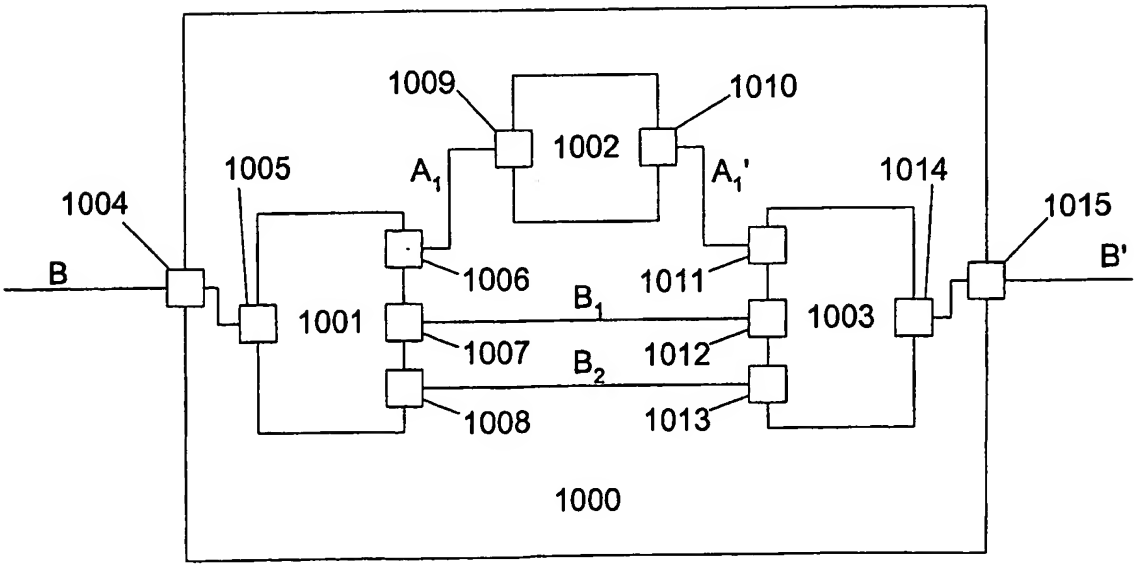


Fig. 24B

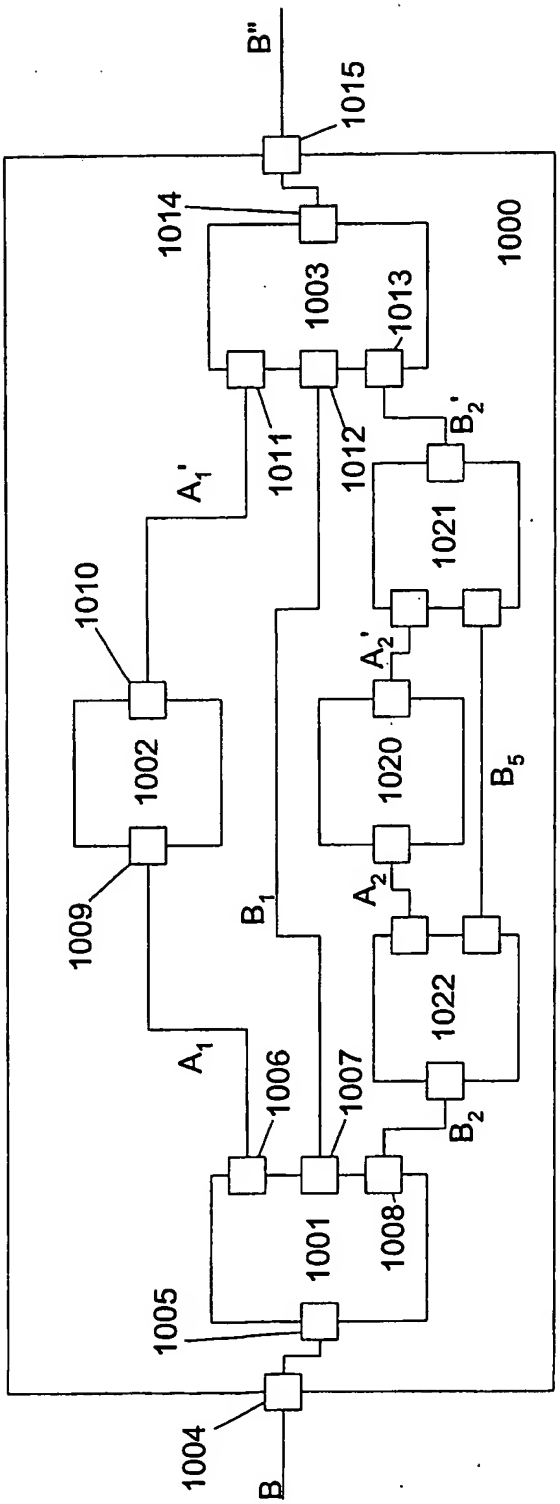
B"
1015
1014
1000
1003
1013
1011
1012
$B_2$'
$A_1$'
1021
1010
$A_2$'
1002
1020
$B_5$
1009
$B_1$
$A_2$
1022
$A_1$
1006
1007
$B_2$
1001
1008
1005
1004
B

Fig. 24C

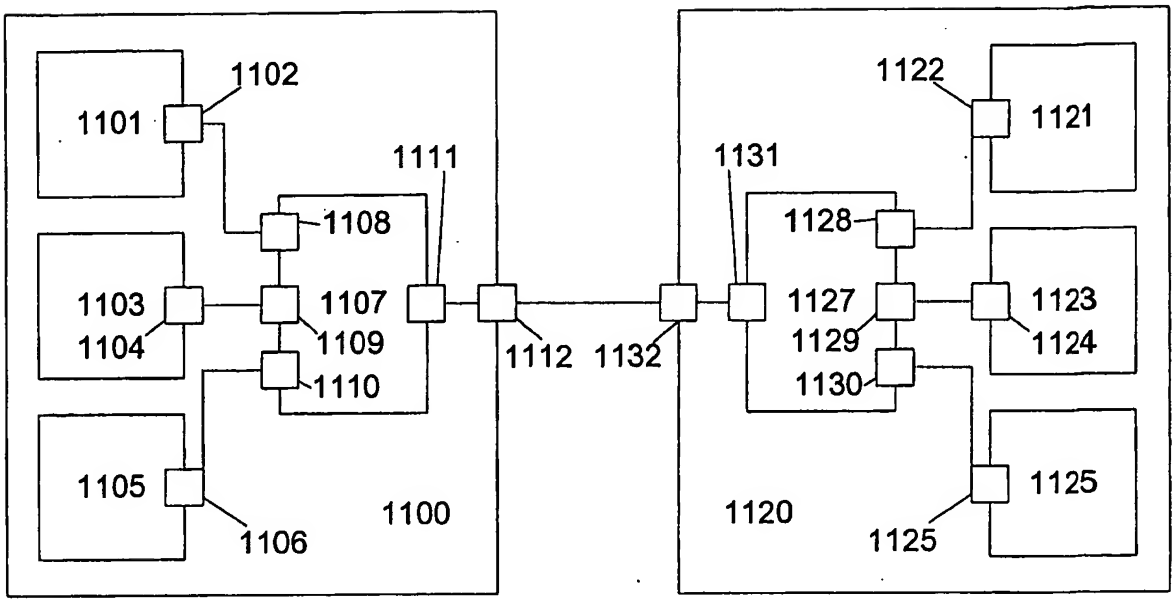


Fig. 25A

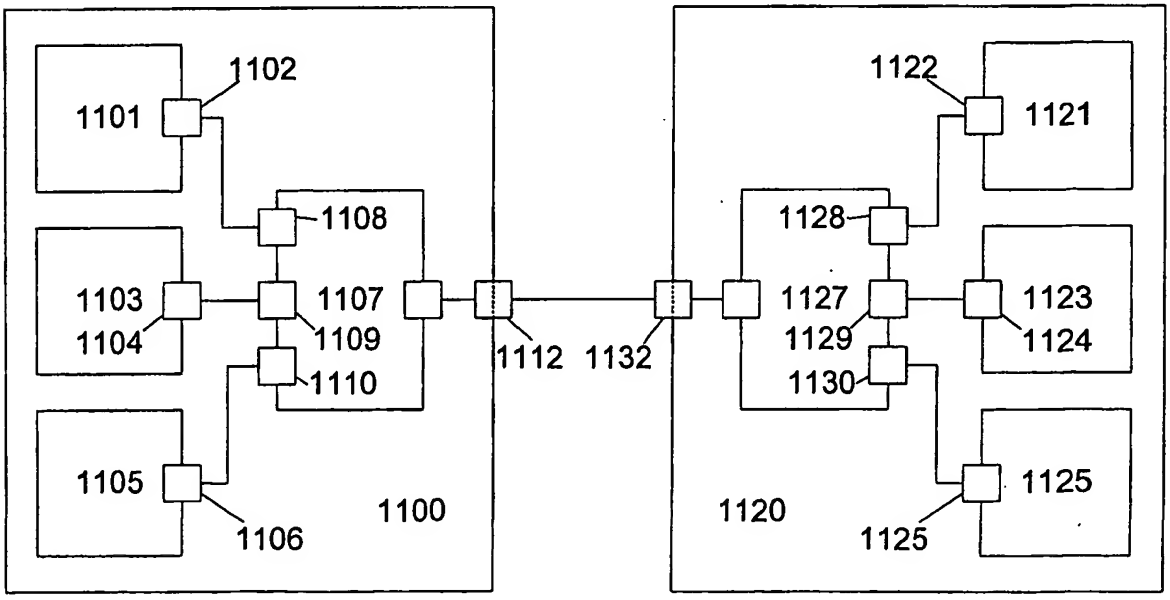


Fig. 25B

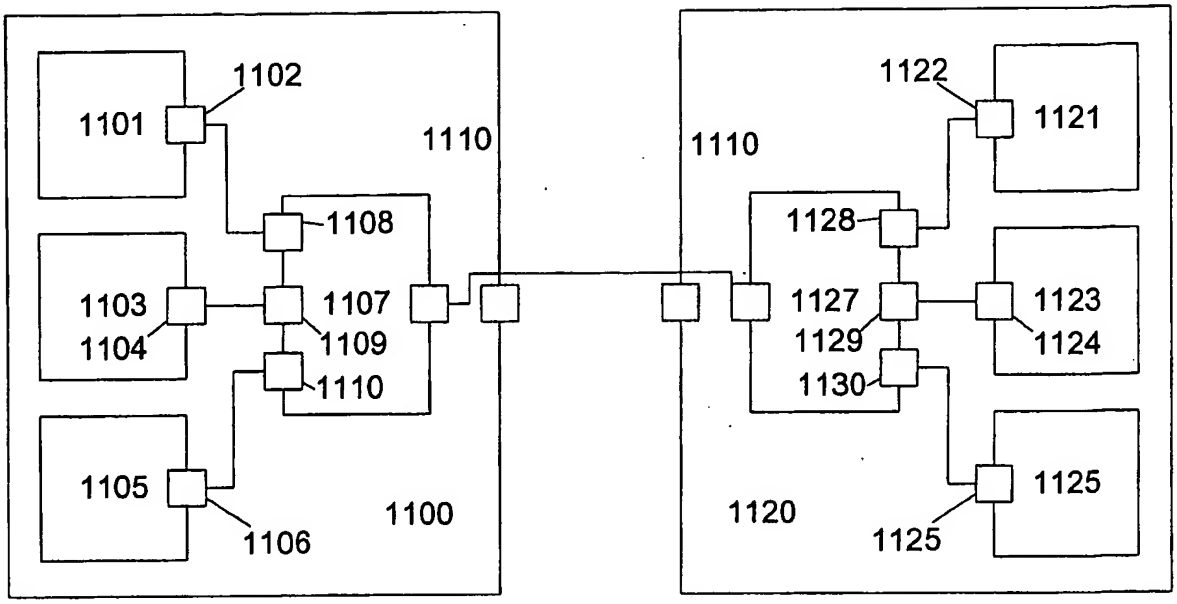


Fig. 25C

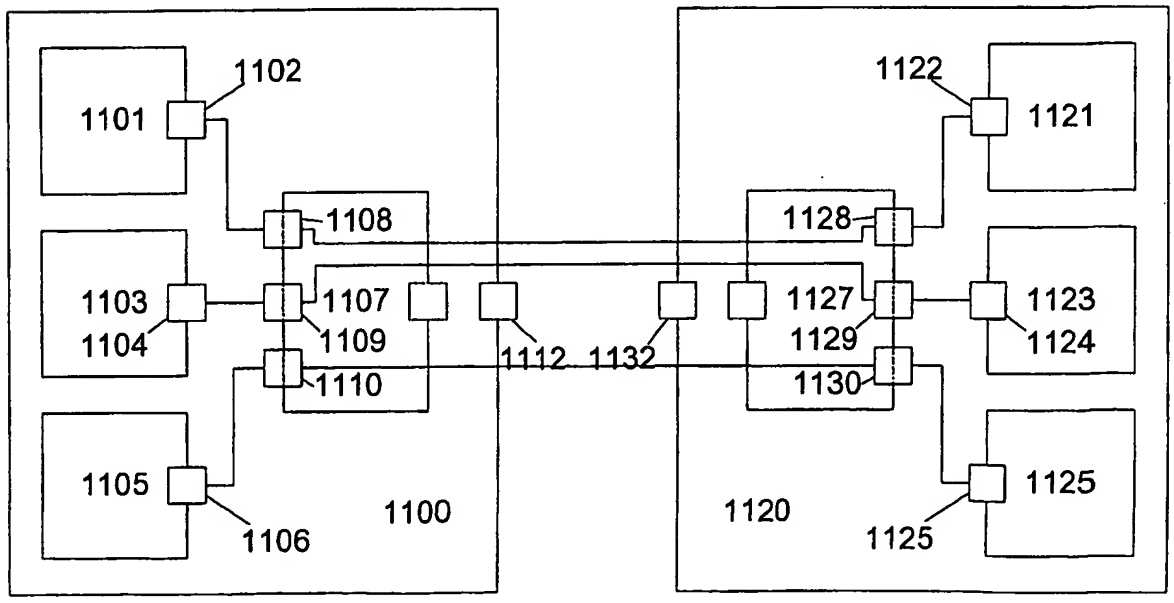


Fig. 25D

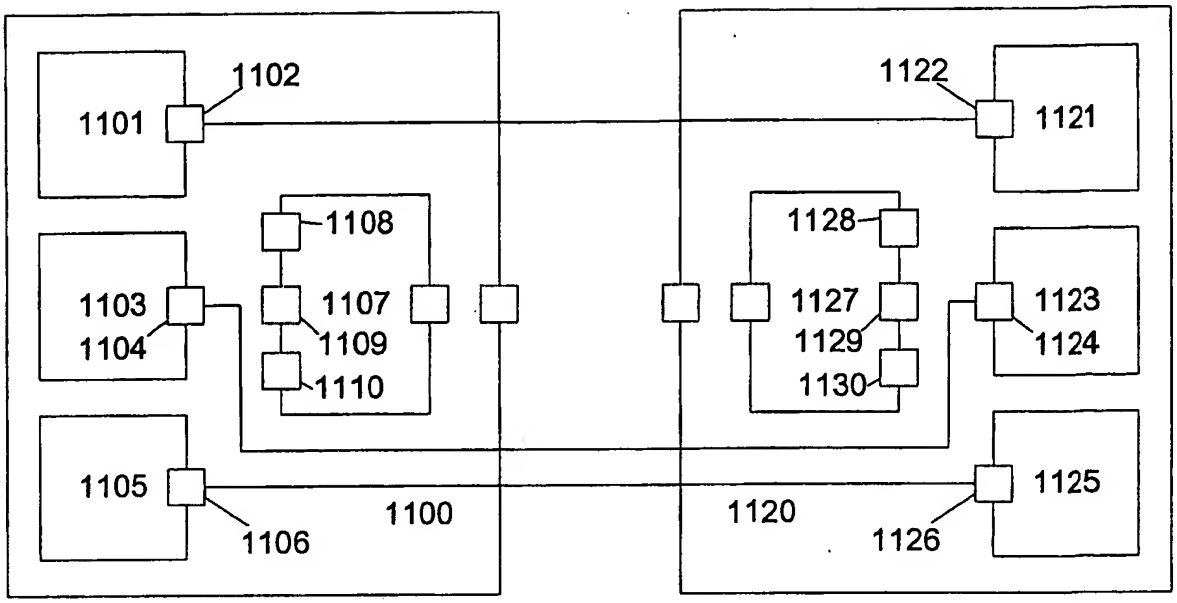


Fig. 25E

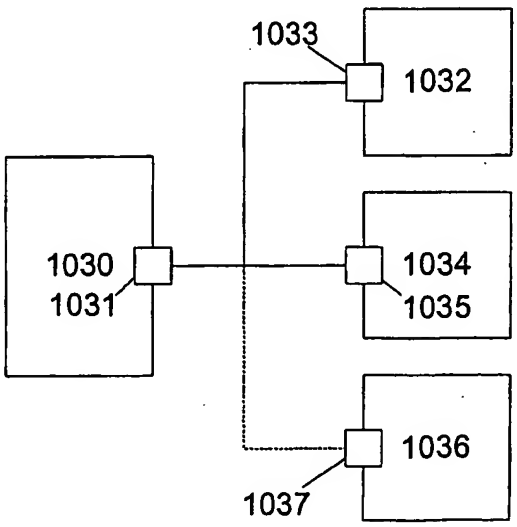


Fig. 27

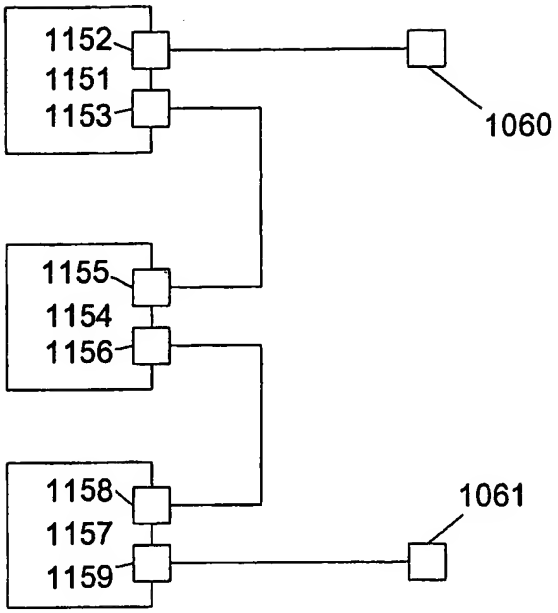


Fig. 26A

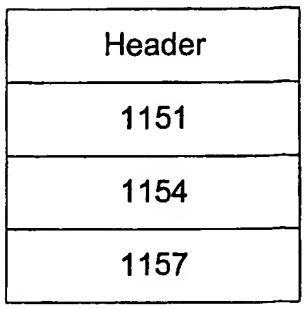


Fig. 26B

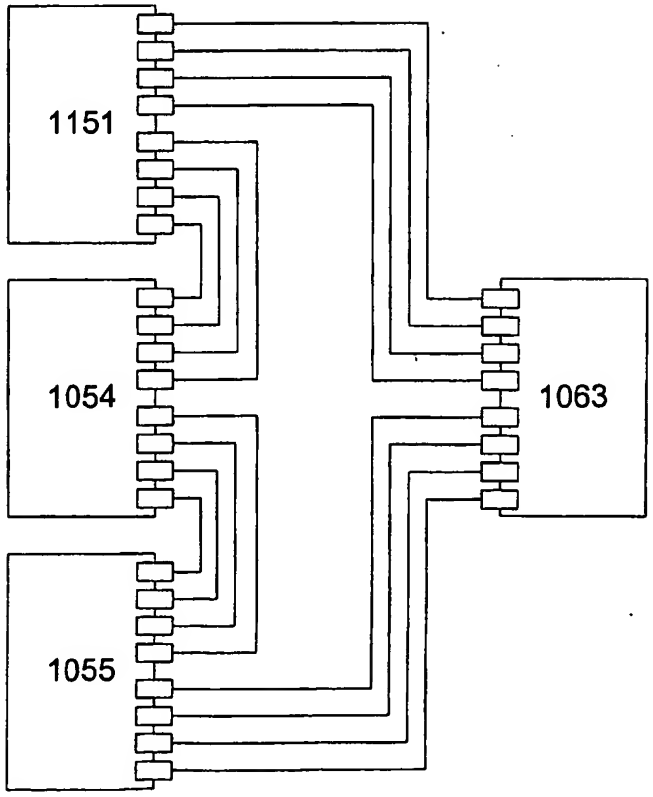


Fig. 26C

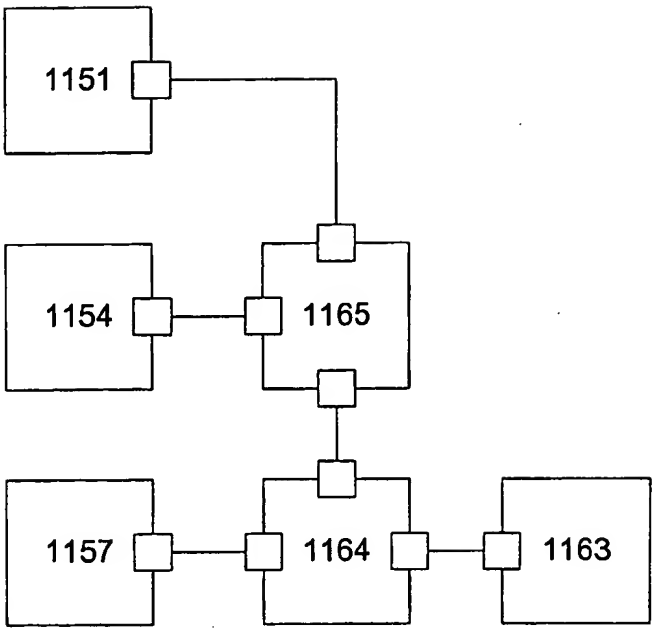


Fig. 26D

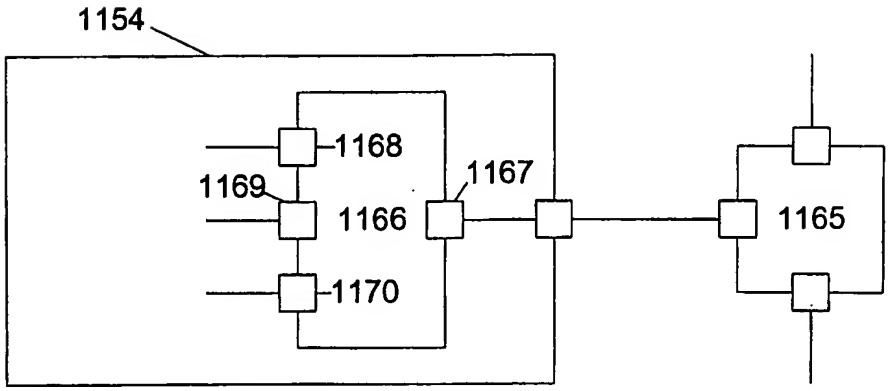


Fig. 26E

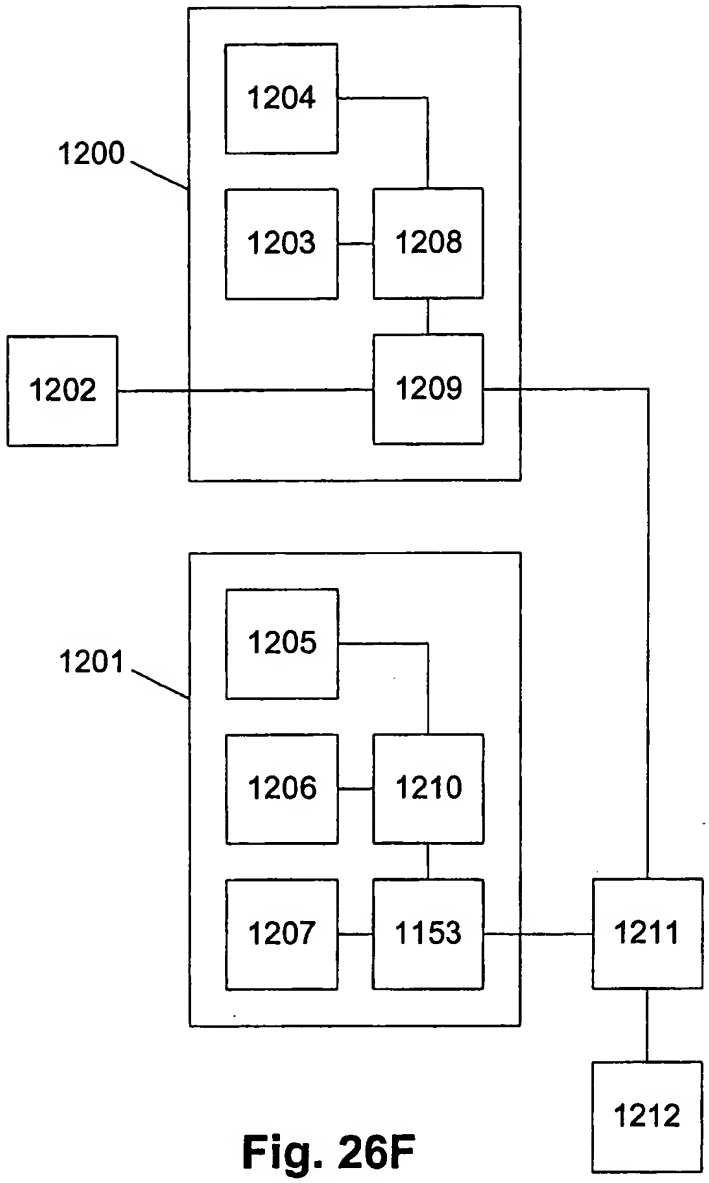


Fig. 26F

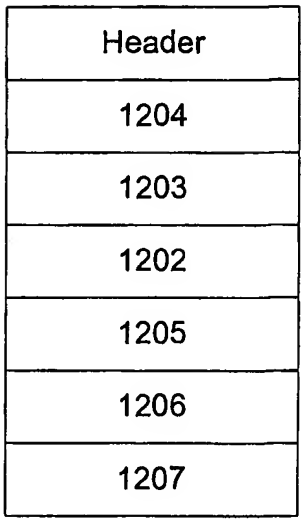


Fig. 26G

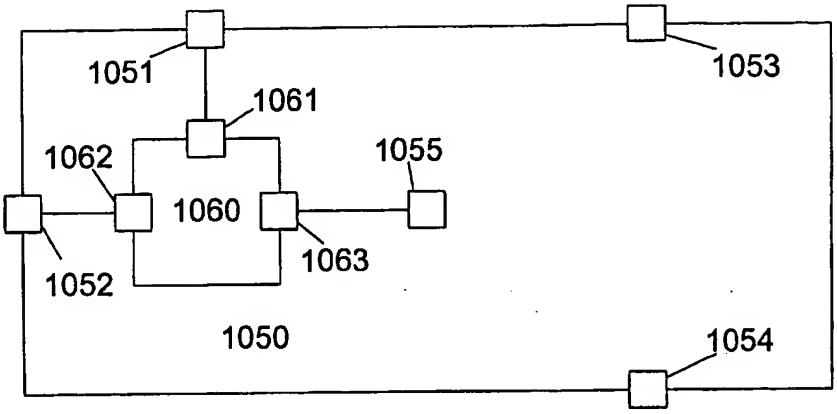


Fig. 28A

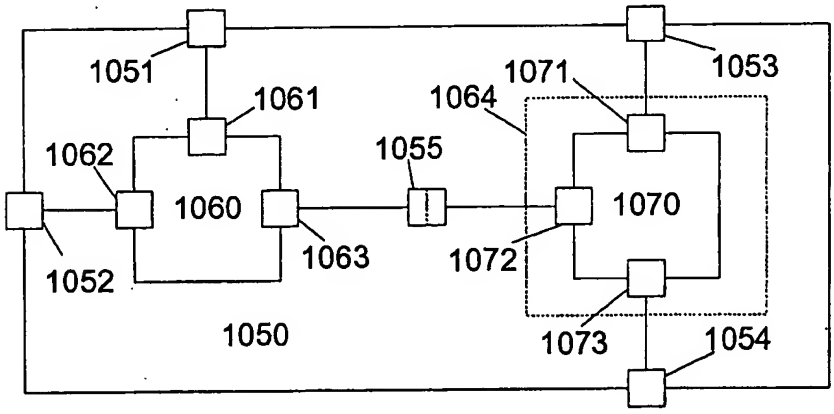


Fig. 28B

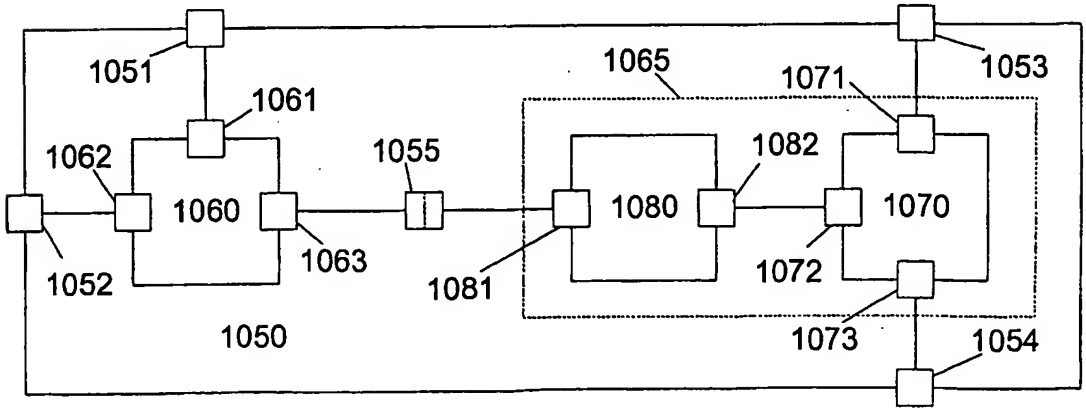


Fig. 28C

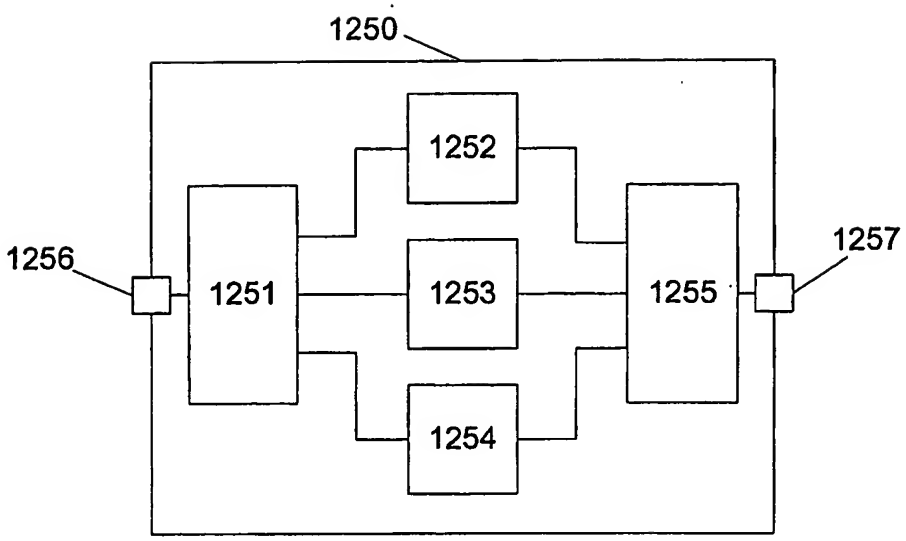


Fig. 29A

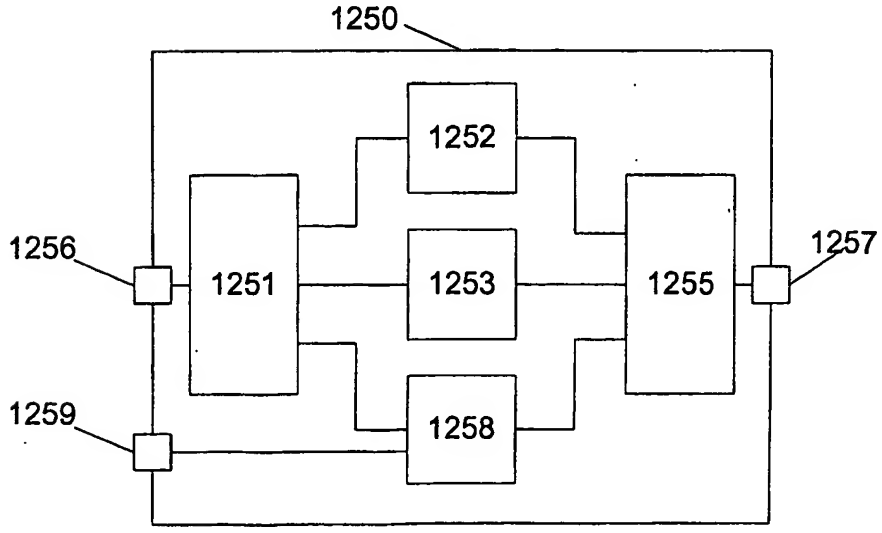


Fig. 29B

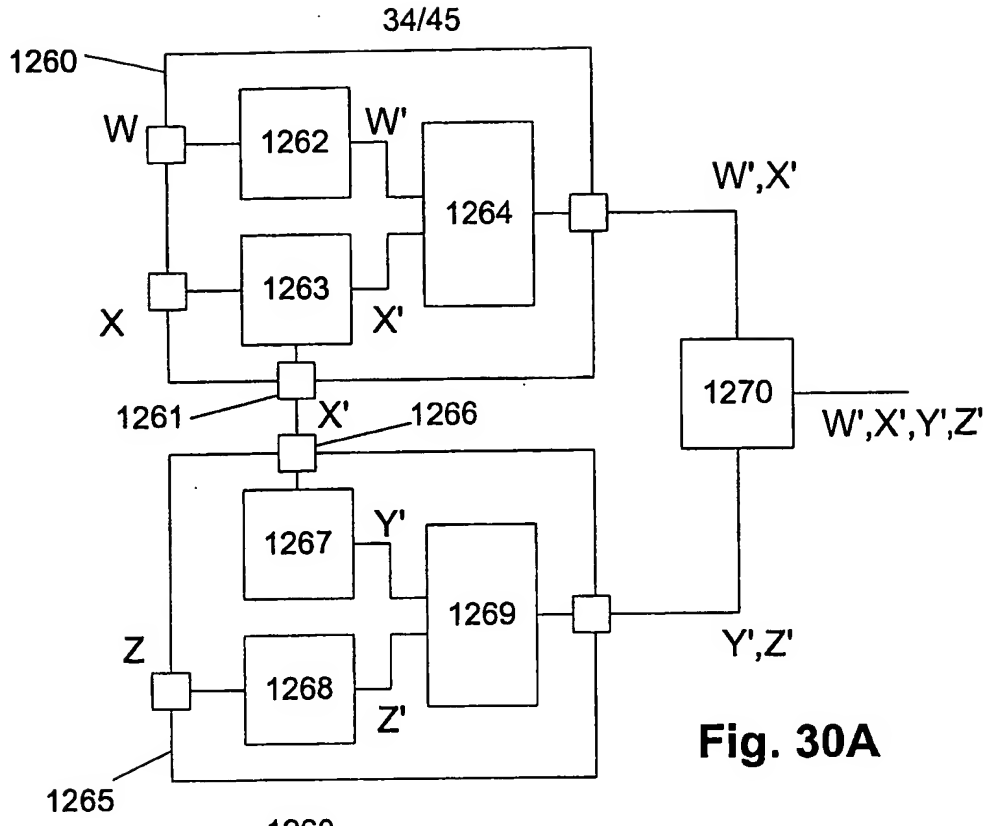


Fig. 30A

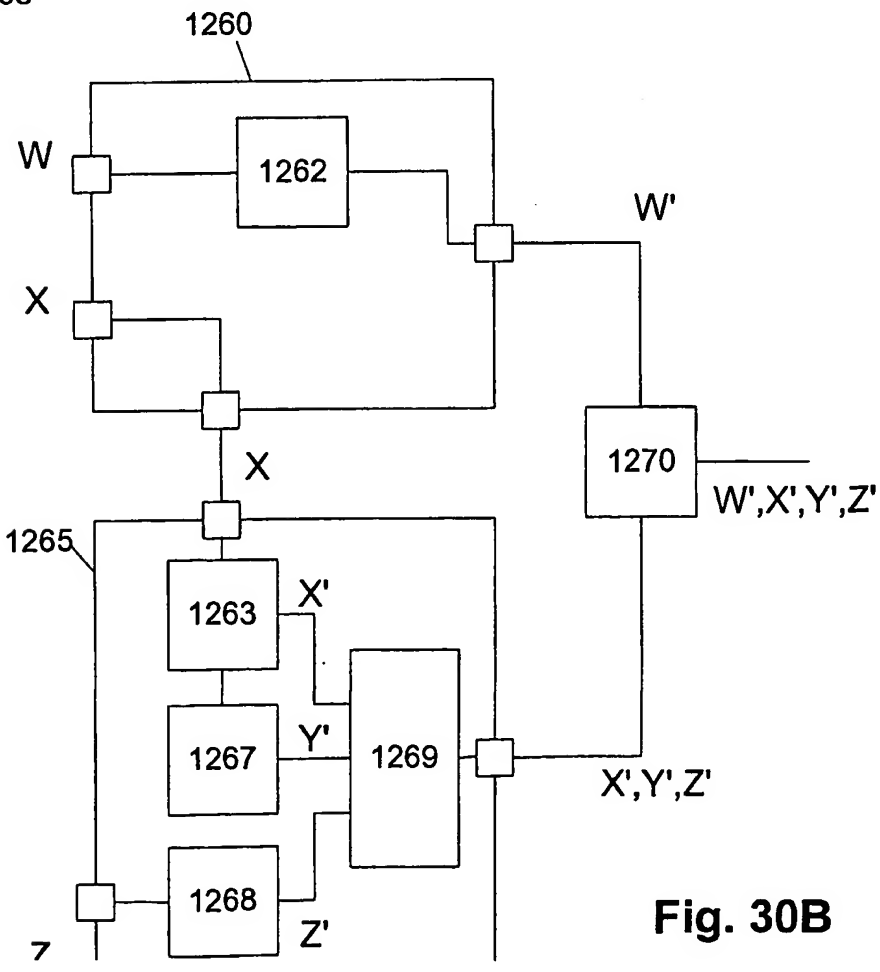


Fig. 30B

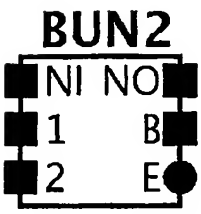


Fig. 31A

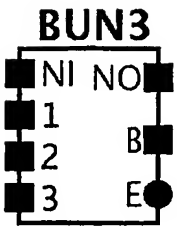


Fig. 31B

Fig. 31C

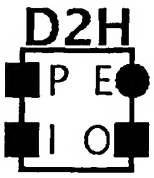


Fig. 31D

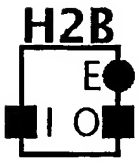


Fig. 31E

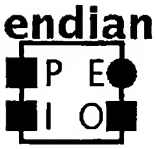


Fig. 31F

Fig. 31G

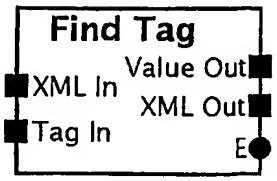


Fig. 31H

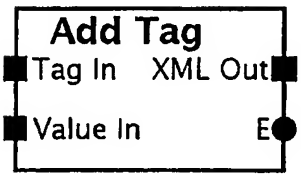


Fig. 31I

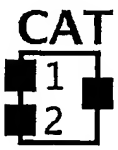


Fig. 31J

Fig. 31K

Fig. 31L

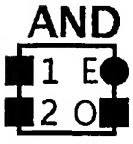


Fig. 31M

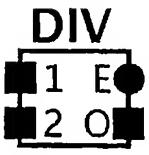


Fig. 31N

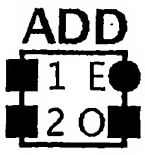


Fig. 31O

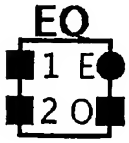


Fig. 31P

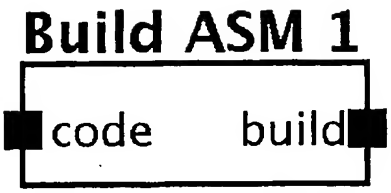


Fig. 31Q

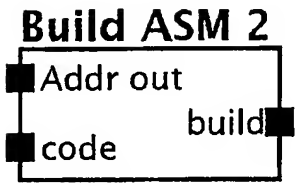


Fig. 31S

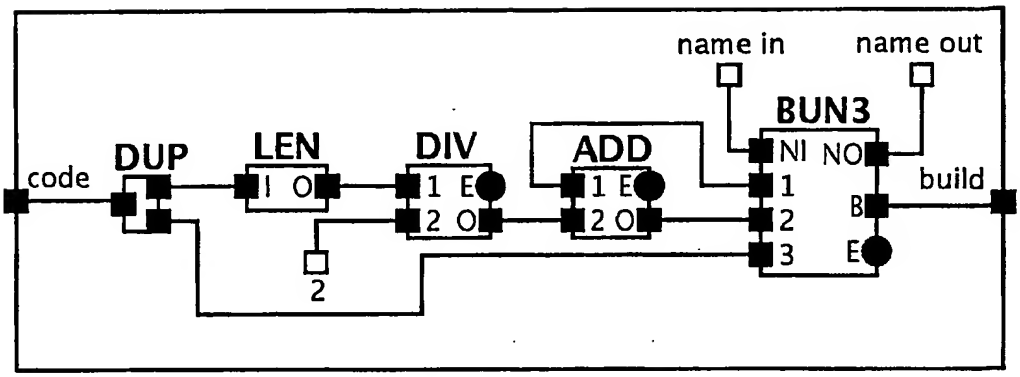


Fig. 31R

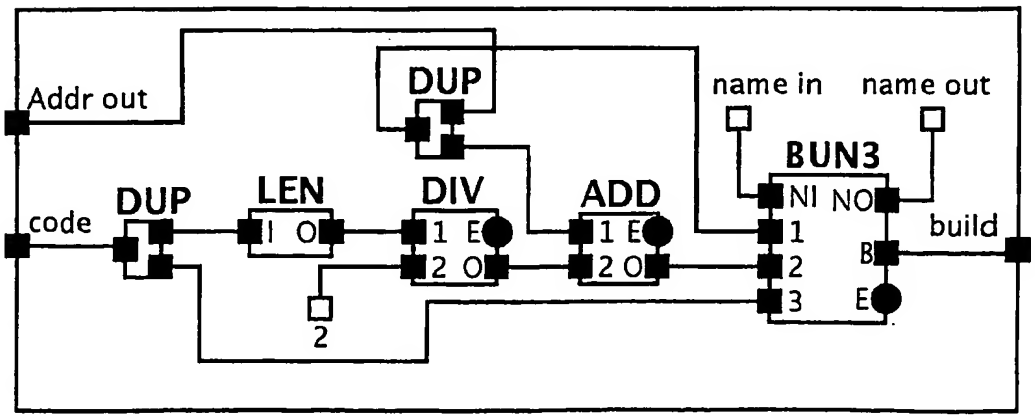


Fig. 31T

Fig. 31U

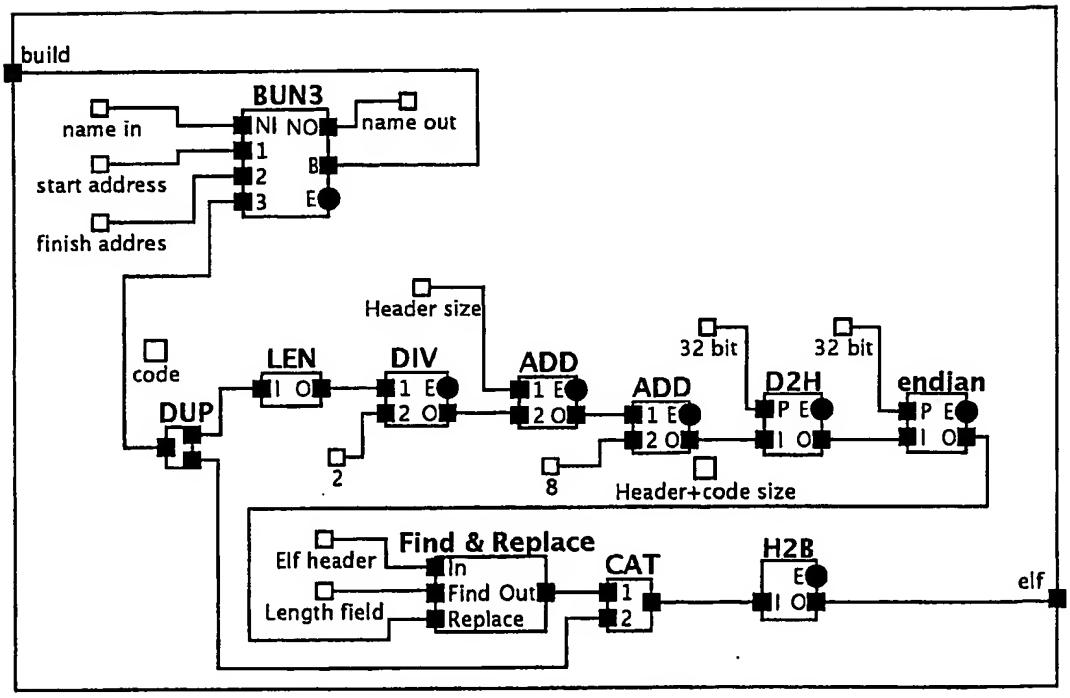


Fig. 31V

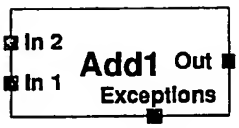


Fig. 32A

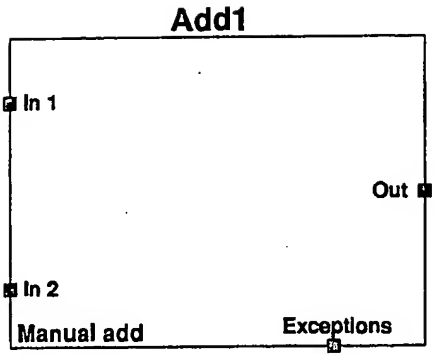


Fig. 32B

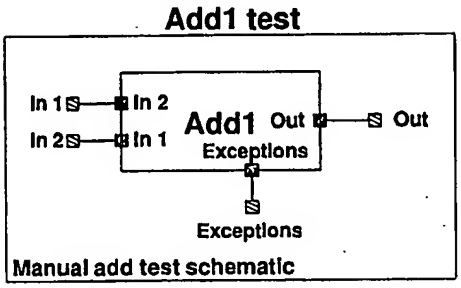


Fig. 32C

Fig. 33

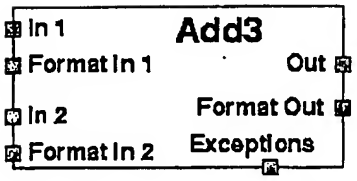


Fig. 34A

Fig. 35A

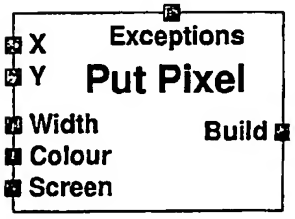


Fig. 36A

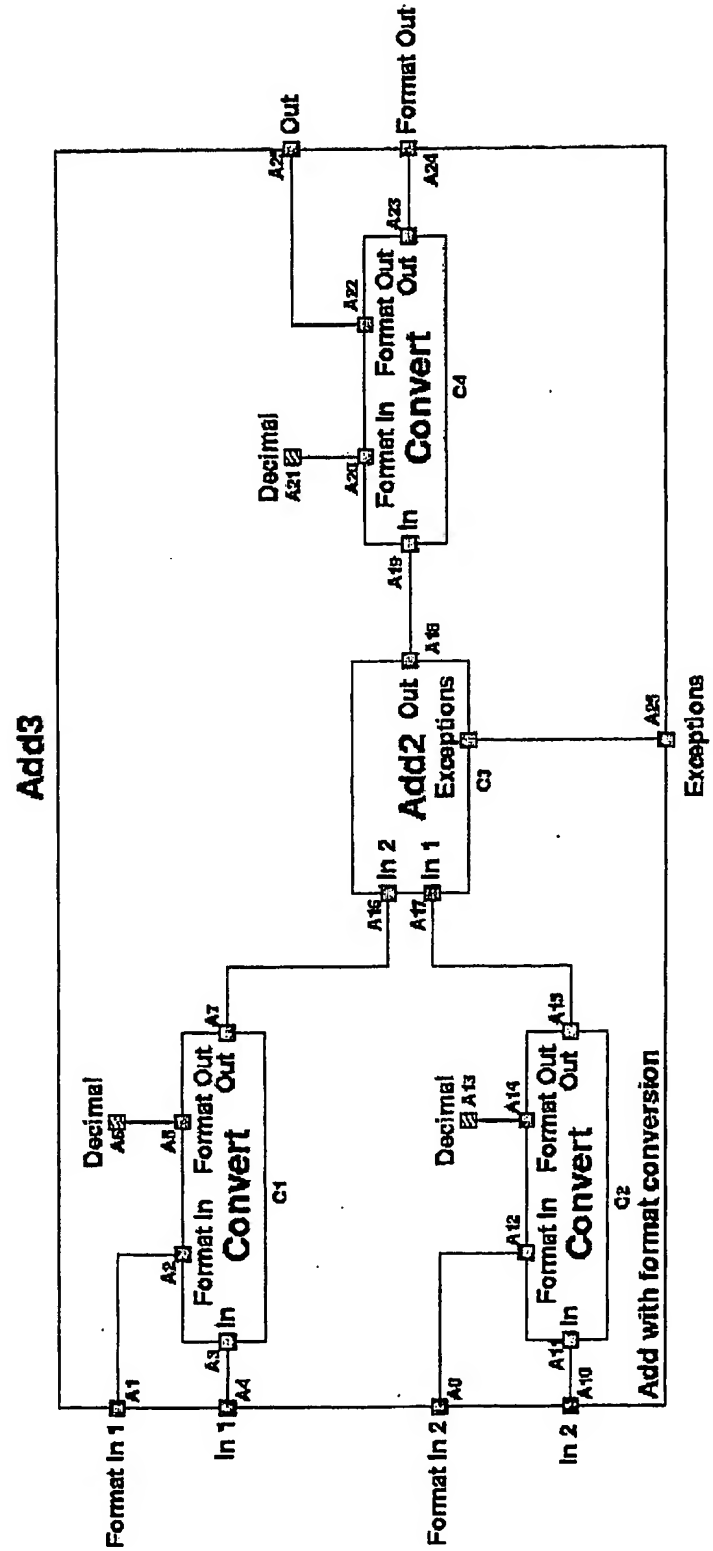
Add3
Format In 1
In 1
Format In 2
In 2
Add with format conversion
Exceptions
Format Out
Out
Decimal
Format In
Convert
In
Format Out
Out
C1
C2
C4
Add2
In 1
In 2
Out
Exceptions
C3

Fig. 34B

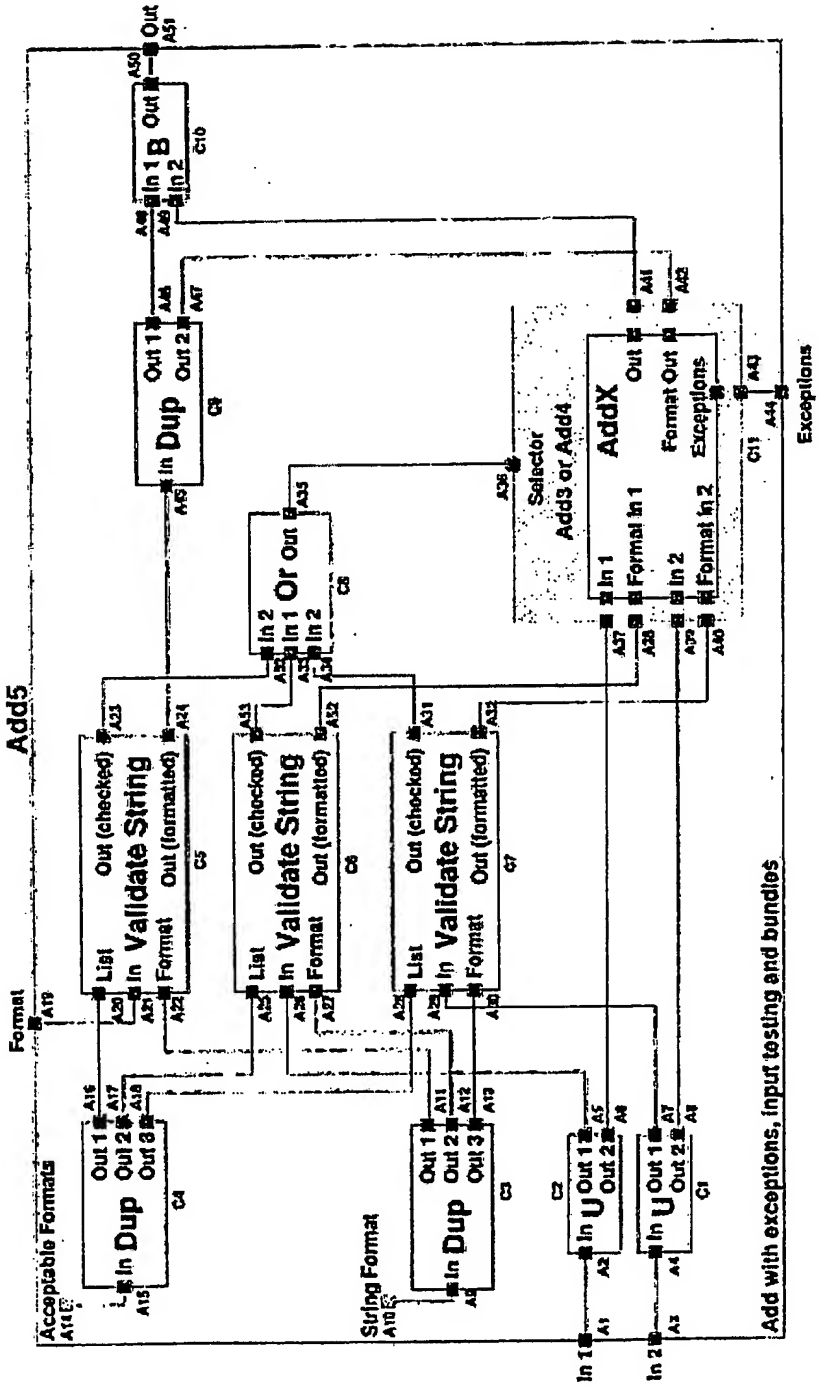
Add5
Acceptable Formats
String Format
Format
Add with exceptions, input testing and bundles
Exceptions
Selector
Add3 or Add4
AddX
Dup
Or
Validate String
U
B
In 1
In 2
Out
Out 1
Out 2
Out 3
List
Format
Out (checked)
Out (formatted)
Format Out
Exceptions

Fig. 35B

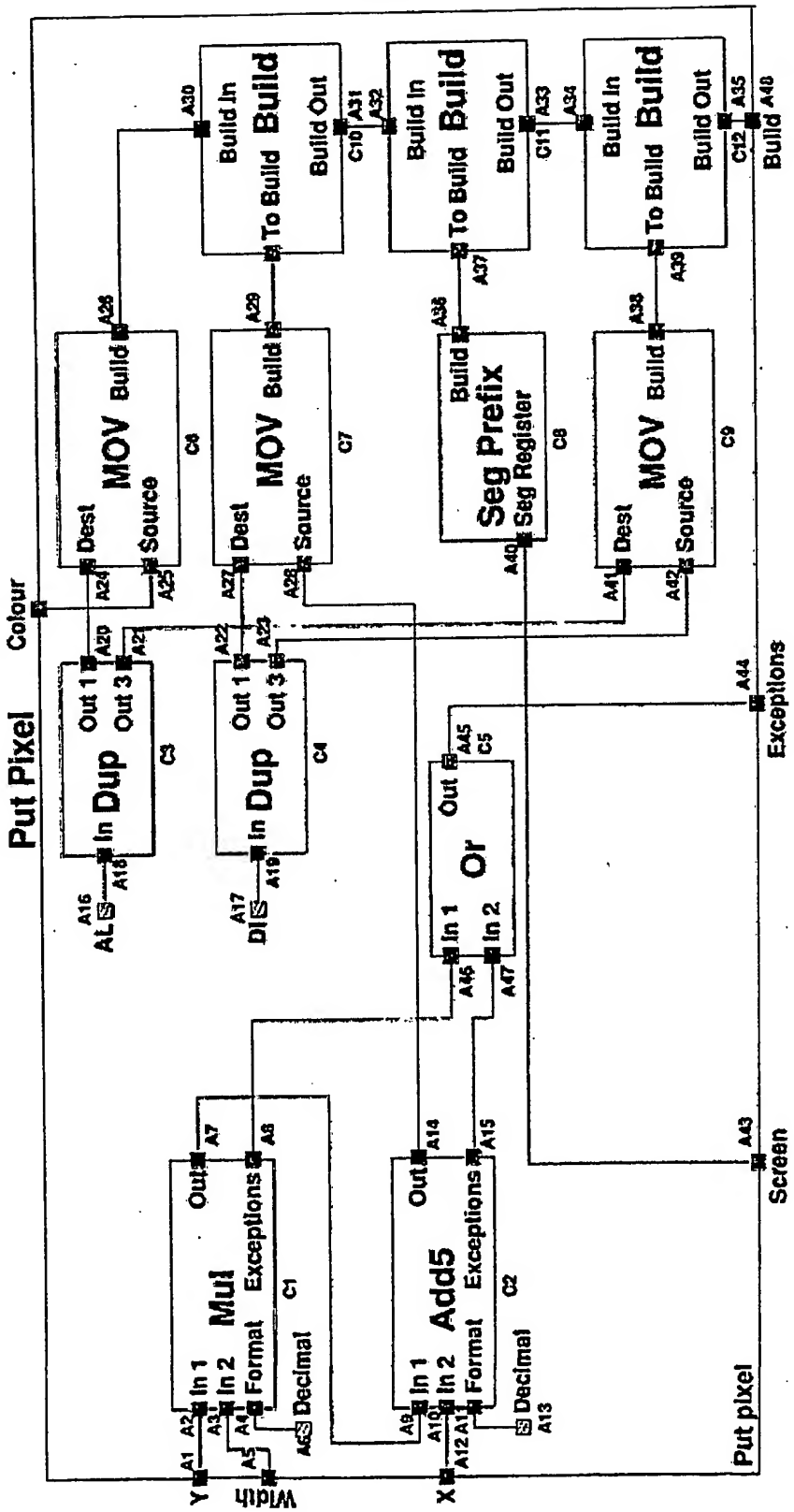
Put Pixel
Colour
Exceptions
Screen
Put pixel
Width
Build
To Build
Build In
Build Out
MOV
Dest
Source
Seg Prefix
Seg Register
Dup
In
Out 1
Out 3
Or
In 1
In 2
Out
Mul
Add5
Format
Decimal
Exceptions

Fig. 36B

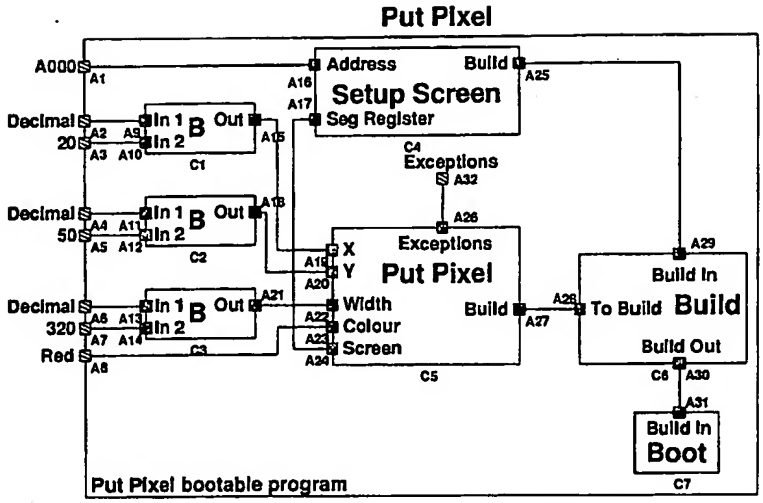
Put Pixel
A000
A1
Address
Build
A16
A17
A25
Setup Screen
Seg Register
Decimal
20
A2
A3
A9
A10
In 1
In 2
B
Out
A15
C1
C4
Exceptions
A32
Decimal
50
A4
A5
A11
A12
A18
A26
C2
Exceptions
X
Y
Put Pixel
A19
A20
A29
Build In
Build
To Build
Build Out
Decimal
320
A6
A7
A13
A14
A21
A22
A23
A24
Width
Colour
Screen
Build
A28
A27
C5
C6
A30
Red
A8
C3
A31
Build In
Boot
C7
Put Pixel bootable program

Fig. 36C

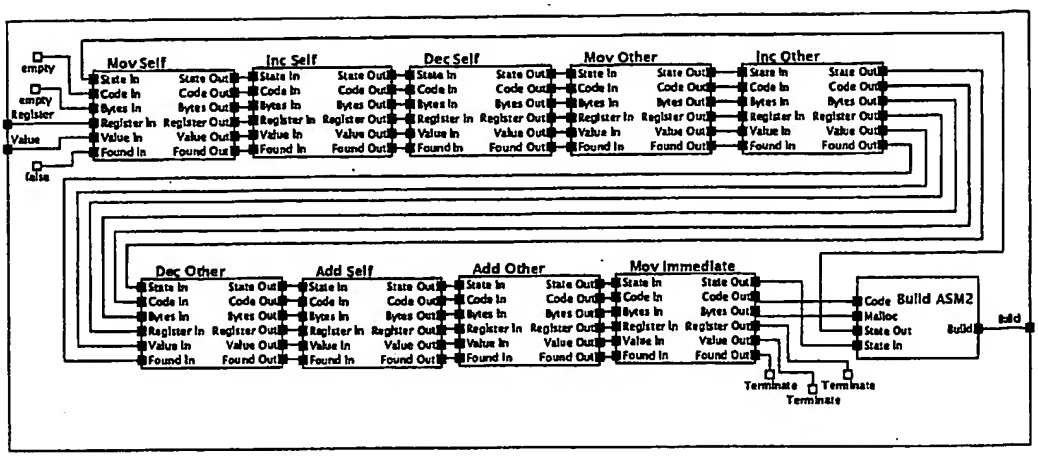


Fig. 37A

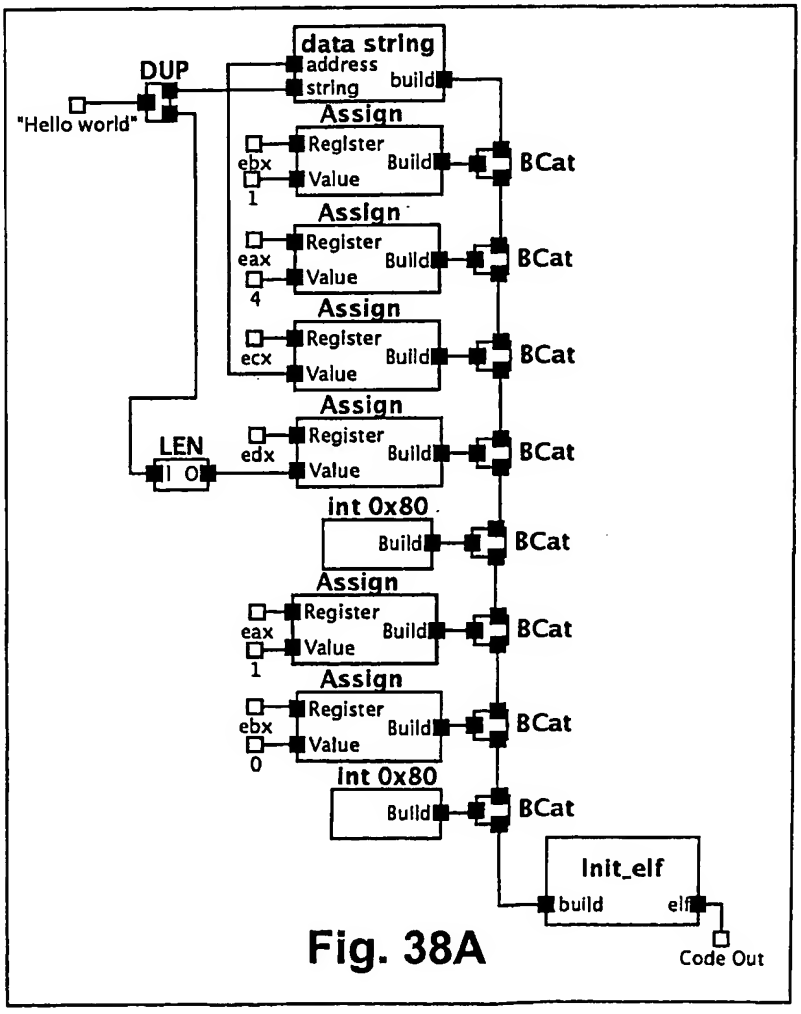


Fig. 38A

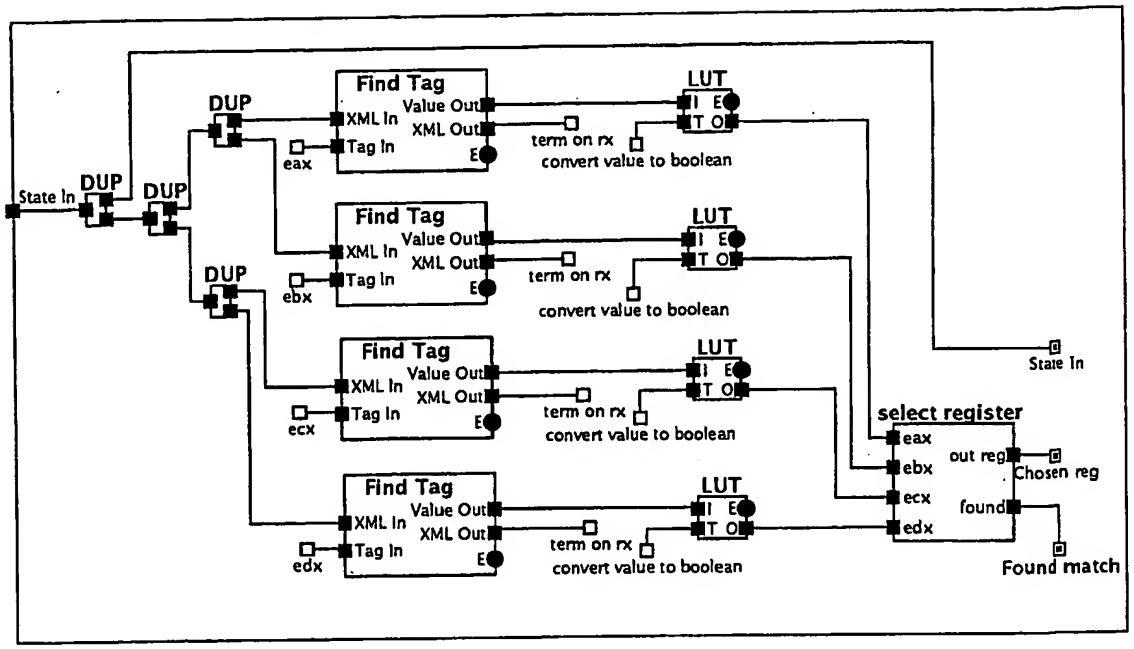


Fig. 37D

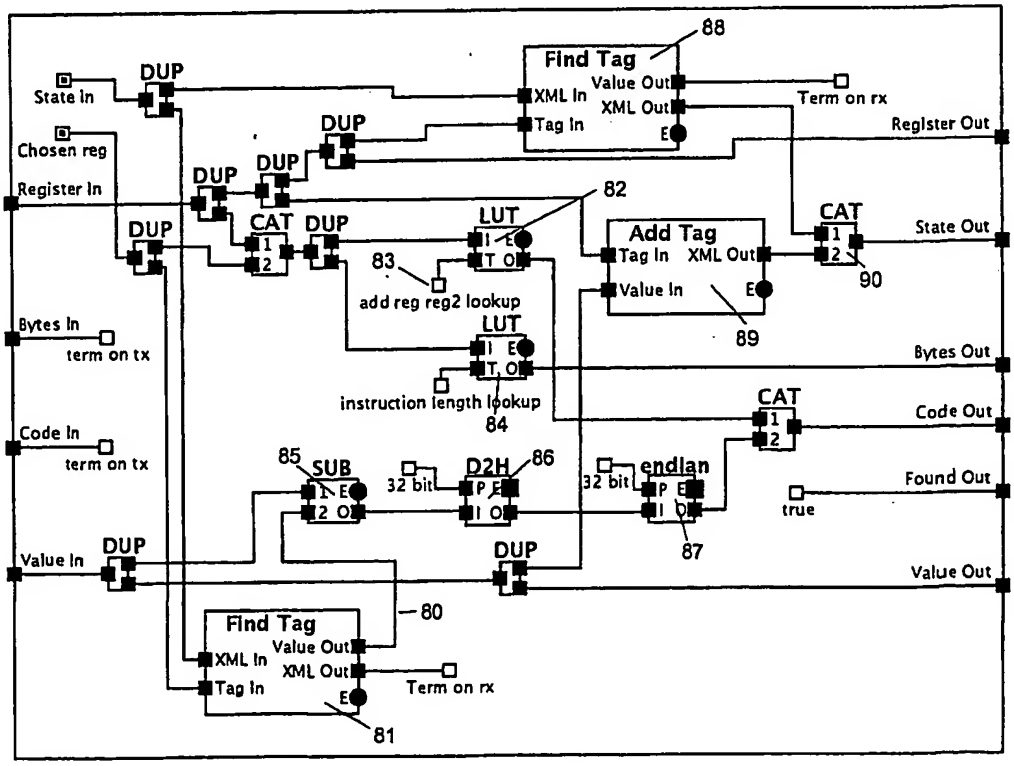


Fig. 37E

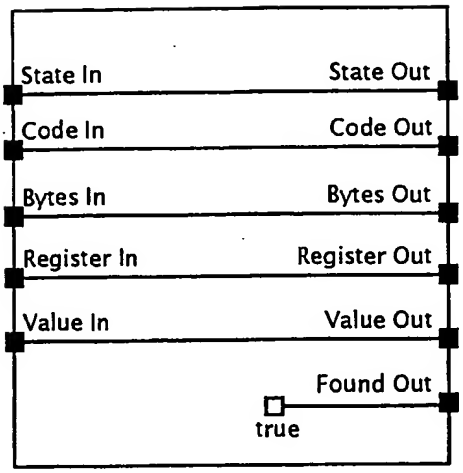


Fig. 37B

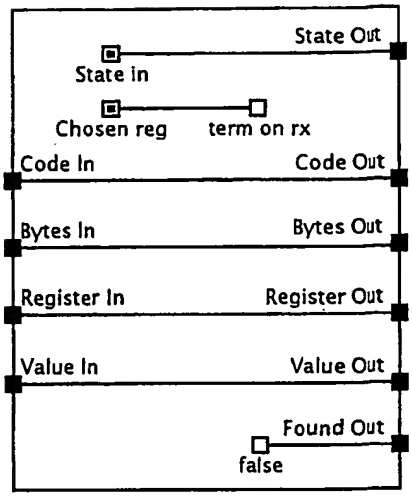


Fig. 37C

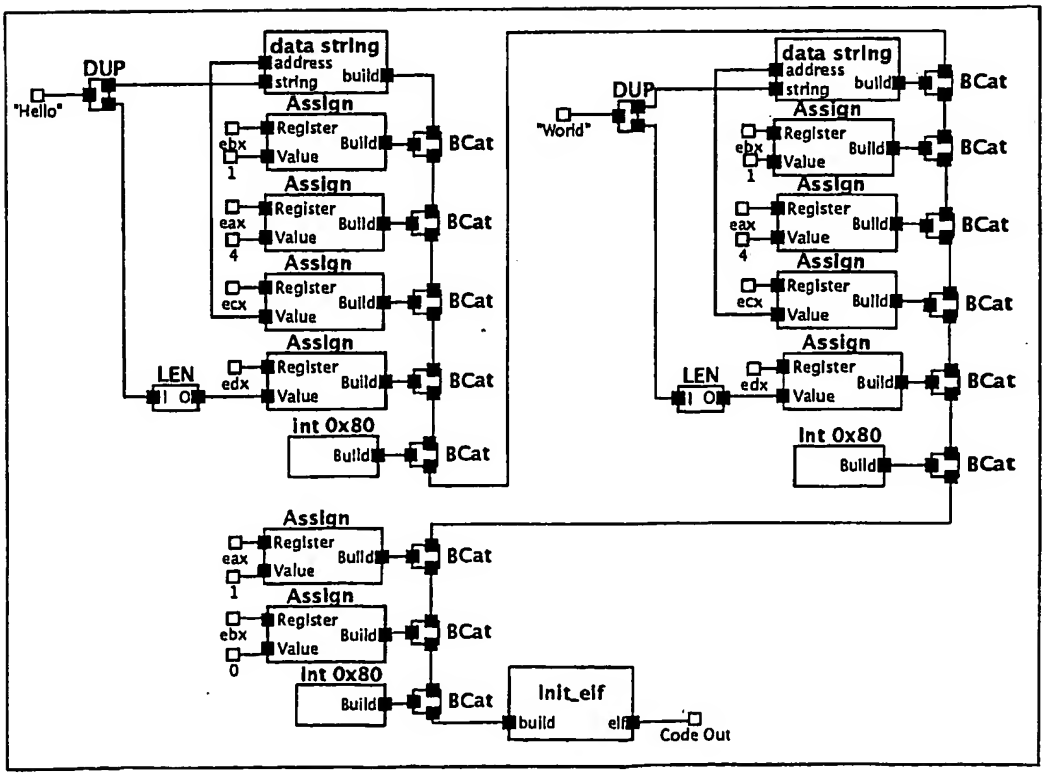


Fig. 38B

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